

# The Mining Journal,

## RAILWAY AND COMMERCIAL GAZETTE:

No. 1445.—Vol. XXXIII.

LONDON, SATURDAY, MAY 2, 1863.

STAMPED.....SIXPENCE.  
UNSTAMPED.....FIVEPENCE.

**MR. JAMES CROFTS, SHAREBROKER,**  
No. 1, FINCH LANE, CORNHILL.  
Mr. Crofts transacts business in the way of PURCHASE or SALE, in every description of stocks, and particularly in BRITISH MINES, in no case departing from the position of a broker, at net prices. All orders meet with the utmost punctuality and despatch, and advice given as to the nature and eligibility of INVESTMENTS, when required. EXCHANGES OF STOCK effected on the most advantageous basis, subject only to one commission.

BUYER of Fentris Lygan and Cefn Cilcen.

SELLER of 100 Cwmbrane.

**MR. CROFTS' MINING CIRCULAR, No. 6,** is published this day. Contents:—Article on Right Choice of Investments. The Market. Reviews:—Froster United, North Trekerby, West Maria and Fortescue, Wheal Unity, Cornubia Tin. Miscellaneous:—Average of Copper Sale at Truro, Wheal Kitty (St. Agnes), Nanglies, Varner, South Exmouth, the Chilvertons, East Carn Brea, Trenowth, Cornubia Tin, Okei Tor, Dale, Pendown, Cefn Cilcen, Fentris Lygan. Enlarged List of Select Mines and Quotations.

Subscription, 21s. per annum; a single copy, six stamps.

**MR. JAMES LANE, No. 44, THREADNEEDLE STREET, LONDON, E.C.**  
JAMES LANE has FOR SALE, at net prices:—30 Arthur, 12s. 6d.; 5 Basset and Grylla, 22s.; 10 Bedford United, 23s.; 5 Cock's Kitchen, 27s.; 50 Crebor, 41s.; 100 Cornubia, 26s.; 5 Calvadnock, 28s.; 20 Drake Walls, 23s.; 3 East Wheel Basset, 29s.; 20 East Wheel Russell, 23s.; 20 East Carn Brea, 23s.; 25 East Rosewarne, 23s.; 20 East Jane, 23s.; 5 East Caradon, 24s.; 100 Fuzze Hill Wood, 10s.; 50 Great Rotallack, 7s. 6d.; 8 Great Wheel Fortune, 23s.; 100 Glasgow Caradon, 24s.; 50 Gawton, 12s.; 150 Great Tregone, 3s.; 50 Hawkmoor, 2s. 6d.; 50 Kelly Bray, 18s.; 20 Lady Bertha, 18s.; 10 Ludcott, 23s.; 20 Marke Valley, 28s.; 20 New Wheel Martha, 23s.; 10 North Basset, 10 North Buller, 20 North Crofty, 24s.; 25 North Trekerby, 23s.; 60 Pen-an-drea United, 21s. 6d.; 5 Tincroft, 21s.; 20 Wheel Edward, 23s.; 20 Wheel Harriett, 23s.; 20 St. Just United, 22s.; 100 West Devon (new issue), 10s. 6d.

**STOCK AND SHAREDEALER.—MR. PETER WATSON,**  
ENGLISH AND FOREIGN STOCK, SHARE, AND MINING OFFICES, 79, OLD BROAD-STREET, LONDON, E.C.  
TELEGRAPHIC MESSAGES TO BUY or SELL Railway, Bank, Mine, and other Shares and Stocks, punctually attended to on commission, or at net prices for cash, or for fortnightly settlements, with advice as to purchases or sales.

Every information can be obtained on personal application or by letter, as to purchases and sales of mine and other shares, and the best investment for capital. From the close proximity of his Offices to the Stock Exchange, as well as the Mining Exchange, PETER WATSON is enabled to act with promptitude on all orders entrusted to him, which at all times are carried out with punctuality, and to the best advantage of his clients.

**MR. LELEAN, 11, ROYAL EXCHANGE, LONDON, E.C.,** has FOR SALE the FOLLOWING MINING SHARES, free of commission:—  
10 Bryn Gwlog, 25s.; 10 Lady Bertha, 18s. 9d.; 70 So. Car. Hooper, 14s. 9d.; 5 Basset, 22s.; 10 Marke Valley, 28s.; 2 South Basset, 29s.; 20 Camborne Vein, 30s.; 5 Mary Ann, 21s.; 5 Tincroft, 21s.; 1 Condurow, 100 North Miners, 5s.; 5 Tincroft, 21s.; 3 Cliff Amal., 21s.; 1 New Seton, 100 Tolvadden, 23s.; 20 Cardigan Cons., 17s. 3d.; 1 Devon Great Consols, 23s.; 20 North Buller, 23s.; 10 East Russell, 23s.; 20 North Down, 23s. 9d.; 5 Vigna and Clogau, 70 Wheal Unity, 8s. 9d.; 15 East Carn Brea, 23s.; 10 North Trekerby, 23s.; 50 Worthling, 10s. 9d.; 20 East Trekerby, 23s.; 50 North Treway, 18s.; 5 East Grenville, 49s. 6d.; 10 North Crofty, 20 Polihay Moor, 25s.; 5 East Basset, 23s.; 100 Pen-an-drea, 21s.; 20 East Jane, 42s. 6d.; 10 Fendown Cons., 27s.; 15 E. Rosewarne, 23s. 16s.; 10 East Seton, 5 Providence, 24s.; 10 East Seton, 20 Rosewarne Cons., 23s.; 5 Great Fortune, 10 Rosewarne Utd., 35s.; 25 Gt. Rotallack, 11s. 3d.; 1 South Caradon, 10 Gt. So. Tolgus, 25s.; 20 Gt. So. Tolgus, 25s.; 20 Gt. Wh. Neptune, 22s. 6d.; 5 Kitty (Lelant), 29s.; 100 Kelly Bray, 31s.

I again earnestly advise the immediate purchase of Wheal Crebor, Rosewarne United, West Condurow, East Rosewarne, East Trekerby, and St. Ives Consols. N.B.—Mr. LELEAN requests that all shares for sale be sent in on Thursday evening the latest, to insure their insertion.—May 1, 1863.

**MR. THOS. THOMPSON, MINING OFFICES,**  
12, OLD JEWRY CHAMBERS, LONDON, E.C.  
Mr. Thompson has the means of obtaining the very first information, and is fully capable of giving the best advice, either for investment or speculation.

**MR. E. GOMPERS, MINING OFFICES,**  
3, CROWN CHAMBERS, THREADNEEDLE STREET, LONDON, E.C.  
BUSINESS TRANSACTIONS IN BRITISH AND FOREIGN STOCKS AND SHARES. Terms, 1½ percent.—Bankers: London and Westminster Bank.

**MR. H. WADDINGTON, MINING AND SHAREBROKER,**  
20, THROGMORTON STREET, LONDON, E.C.  
The coming price is Seton, the best dividend (copper) mine in the West. West and South Tolgus shares should be bought; the points about coming off will probably cause a great rise.

**MR. G. D. SANDY, STOCK AND SHAREDEALER, 48,**  
THREADNEEDLE STREET, LONDON, E.C.  
Daily price list may be had on application.

**MR. T. ROSEWARNE, 81, OLD BROAD STREET, LONDON, E.C.,** has FOR SALE:—  
Alderley Edge, 22s.; East Gwinn Lake, 15s.; Roskearnow, 21s.; Copper Hill, 18s.; Gawton United, 10s.; South Tolgus, 25s.; Condurow, 127s.; Great South Tolgus, 25s.; Sthney Carnmeal, 24s.; Clifford Amal., 22s.; Kelly Bray, 18s.; Tincroft, 21s.; Drake Walls, 23s.; West Caradon, 23s.; 100 North Basset, 29s.; East Carn Brea, 23s.; North Trekerby, 23s.; E. Rosewarne, 23s. 16s. 3d.; North Robert, 21s.; East Basset, 23s.; North Basset, 24s.; Glasgow Caradon, 24s.; Okei Tor, 24s.; East Russell, 20s.; North Robert, 21s.; Wheal Edward, 23s.; North Miners, 5s.; Troloweth, 20s.; South Basset, 29s.

and is a BUYER of any number of the following shares:—Glasgow Caradon, 24s.; East Russell, 20s.; North Robert, 21s.; Wheal Edward, 23s.; North Miners, 5s.; Troloweth, 20s.; South Basset, 29s.

**MR. JOHN METHERELL, MINE SHARE DEALER,**  
2, BIRCHIN LANE, CORNHILL, LONDON, E.C.  
Mr. J. METHERELL, having been practically engaged in mining for the past 30 years, enabled to give sound advice as to dealing in shares.

Telegraphic orders punctually attended to.

**MESSRS. R. HOLEY AND CO., SWORN STOCK, SHARE, AND MINING BROKERS, 45, CORNHILL, E.C.** (late of 2, Royal Exchange-buildings), TRANSACT EVERY DESCRIPTION OF MINING BUSINESS, on commission, and are in a position to obtain reliable information respecting all dividend and speculative mines.

N.B.—Messrs. HOLEY and Co. publish a Weekly Mining List, with the closing prices of Wednesday, and will be most happy to forward the same (gratis) on application.

**MR. GEORGE BUDGE, SHAREBROKER, No. 4, ROYAL EXCHANGE BUILDINGS, LONDON, E.C.** (Established 16 years), has FOR SALE at net prices:—2 West Caradon, 22s.; 5 Margaret, 23s.; 25 Kitty (St. Agnes), 21s.; Tincroft, 21s.; 1 South France, 29s.; 100 Crebor, 41s.; 3 Providence, 24s.; North Downs, 23s.; 50 Drake Walls, 23s.; 200 Redmoor, 4s. 6d.; 30 Sthney Carnmeal, 24s.; 20 North Buller, 100 Gawton, 11s. 3d.; 25 Great Bay; 3 East Basset; 20 Dale, 12s.; 120 East Martha; 25 Cefn Cilcen, 35s.; 35 Wheal Edward, 23s. 9d.; 100 Wheal Emma, 23s.; 50 East Gwinn Lake; 100 Wheal Pollard, 10s.; 200 Garreg, 3s.; East Rosewarne, 23s.; 100 Kelly Bray, 18s. 9d.; 5 Bryn Gwlog; 100 New South Caradon, 24s.; 50 Great Caradon; 150 Central Miners; 120 Illogan, 11s.; 35 West Maria, 23s. 1s. 6d.; Marke Valley, 28s.; 200 East Clogau; 3 Cook's Kitchen, 27s.; 200 Vale of Towry, 6d.; 200 Dolfinyryn; 100 St. David, 18s.; 35 Crane; 150 Hawkmoor, 2s. 9d.; 50 mar, 14s. 6d.; 40 South Exmouth, 24s.; 35 Okei Tor; 5 Alderley Edge; 25 Gwinn, 23s.; 75 South Caradon Hooper, 18s.; 100 East Grenville; 15 Wheal Unity, 27s.; Sortridge, 5s. 6d.; 50 North Dolcoath; 30 North Basset; 3 Great Fortune, 23s. 6d.

**GEORGE MOORE,**  
1, CROWN COURT, THREADNEEDLE STREET.  
In any business that GEORGE MOORE is favoured with, in which he is the buyer, he will give CASH ON RECEIPT OF TRANSFER.

**JAMES HERRON has FOR SALE the following SHARES, at the prices quoted, and FREE OF COMMISSION:—**  
20 Alfred Consols, 4s. 10d. (ex. call).  
10 Aberffry.  
10 Bedford United.  
10 Bryn Gwlog, 25s. 10d.  
25 Bottle Hill.  
30 Buller and Basset, 4s. 9d.  
10 Cliff Amal., 22s. 10d.  
1 Cook's Kitchen, 27s. 8d.  
5 Caradon Consols.  
30 Caradon Hill, 27s.  
25 Cefn Cilcen.  
50 Carnwae.  
2 Copper Hill, 28s. 10d.  
20 Drake Walls, 23s. 10d.  
50 Dale, 9s.  
50 Don Pedro North del Rey, 30s. 9d.  
20 E. Clogau (5s. pd.), 4s. 9d.  
20 East Russell, 23s. 10d.  
10 East Carn Brea, 23s.  
1 East Basset, 23s. 10d.  
50 East Seton, 8s. 6d.  
20 E. Rosewarne, 23s. 10d.  
1 East Pool.  
1 East Durren, 25s.  
20 East Grenville, 49s. 6d.  
10 East Caradon, 24s. 10d.  
20 Fortuna, 25s. 1s. 9d.  
20 East Wheel Agar.  
30 East Martha.  
20 Glasgow Caradon Consols, 24s. 9d.  
25 Garreg, 3s. 6d.  
50 Gwinn, 23s.  
50 Gt. North Cop., 5s. 6d.  
2 Great Fortune, 23s. 10d.  
20 Great United.  
10 Great Wheel Vor.  
10 Gt. So. Tolgus, 25s. 6d.  
2 Granbler, 21s. 10d.  
20 Great Caradon, 22s. 10d.  
20 Great North Tolgus.  
10 St. John del Rey, 55s. 10d.  
30 Gt. Rotallack, 6s. 9d.  
30 Hingston Down, 23s. 10d.  
25 Illogan.  
20 Kelly Bray, 17s. 9d.  
5 Long Rake, 11s. 9d.  
20 Lady Bertha, 18s. 9d.  
30 Linares, 27s. 10d.  
10 Ludcott, 23s. 10d.  
10 Marke Valley.  
100 Montes Auroas, 23s. 13s. 9d.  
20 North Basset, 24s. 18s. 9d.  
5 North Buller, 23s. 10d.  
10 N. Trekerby, 23s. 10d.  
10 Nanglies.  
30 North Treway, 18s.  
60 N. Wh. Martha, 48s. 9d.  
100 North Rhine.  
1 New Seton, 21s. 10d.  
10 North Roskear, 23s. 10d.  
10 North France.  
5 North Phoenix.  
50 Nova Scotia, 16s. 6d.  
40 Nant-y-Iago.  
20 North Miners, 4s. 9d.  
20 New S. Caradon, 13s. 6d.  
20 N. Downs, 23s. 10d.  
15 North Crofty, 23s. 1s. 3d.  
2 North Pool.  
7 Polihay, 21s. 10d.  
20 Pendown, 23s. 10d.  
1 Providence, 24s. 10d.  
100 Port Phillip, 31s. 6d.  
20 Pen-an-drea, 19s. 9d.  
Fentris Lygan.  
50 Gwinn, 23s.  
10 Rosewarne Consols.  
10 Rosewarne, 23s. 10d.  
20 Rosewall Hill, 23s. 9d.  
1 South Caradon, 24s. 10d.  
20 S. Carn Brea, 23s. 10d.  
2 St. Just United, 22s.  
20 St. Francis.  
20 St. Day United.  
30 Santa Barbara, 13s. 9d.  
100 Vale of Towry, 6s. 10d.; 10 Bryn Gwlog, 25s. 10d.; 50 North Pool, 22s. 15s.; 20 Treway, 18s.; 100 Vale of Towry, 6s. 10d.; 10 Bryn Gwlog, 25s. 10d.; 50 North Pool, 22s. 15s.; 20 Treway, 18s.; 100 Vale of Towry, 6s. 10d.

**MESSRS. VIVIAN AND REYNOLDS, 68, OLD BROAD STREET, LONDON, E.C.,** MINING ENGINEERS, INSPECTORS OF MINES, COMMISSION, AND GENERAL AGENTS for the PURCHASE or SALE of MINES, SHARES, RAILWAY, AND EVERY OTHER DESCRIPTION OF STOCK. Commission on share transactions 1½ percent. on £100 and above, and 2½ percent. on less sums.

**MR. EDWARD COOKE, SHAREBROKER,**  
75, OLD BROAD STREET, LONDON, E.C. Advice given on application on the merits of the various mines currently dealt in.

**MR. BATTERS PUBLISHES A DAILY STOCK, SHARE, AND MINING CIRCULAR** containing particulars of all movements in Bullion, Foreign Exchanges, Consols, Foreign Stocks, Railways, Mines, &c., and can be had by his clients free, on application.—S. Cowper's court, Birch-lane, London, E.C.

**MR. BATTERS** strongly recommends his friends to buy Tincroft shares for investment, as being perfectly free from speculation, will pay good interest for money, and steadily advance in price.

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**NORTH CROFTY.**—This mine is destined to occupy ere long a first place in the list of the successes of the rich Dolcoath district.

**ILLOGAN MINES.**—Already discoveries of importance have been made. The locality is the best in England, being under the shadow of Carn Brea Hill. Management the same as Tincroft. Shares should be bought.

**EDMUND OLDREY, STOCK, SHARE, AND MINING BROKER,**  
20, THROGMORTON STREET, LONDON, E.C.

**GEORGE RICE, SHAREBROKER, 1, FINCH LANE, CORNHILL, LONDON** (20 years' experience).

**SPECIAL BUSINESS** at close prices in:—  
East Caradon. East Carn Brea. East Rosewarne.  
North Basset. North Basset. North Basset.  
North Basset. North Basset. North Basset.  
Wheal Seton. Wheal Harriett. Wheal Crebor.

**EAST CARADON.**—Great profits may be made by operating in the shares of this mine for the following accounts. Apply for "advice" to GEORGE RICE at once.

**JOSEPH GREGORY, STOCK AND SHAREBROKER,**  
2, HATTON COURT, THREADNEEDLE STREET, LONDON, E.C.  
Commission on purchase and sale of mining shares, 1½ percent.

**WILLIAM SEWARD, MINING BROKER, STOCK AND SHAREDEALER, 31, THROGMORTON STREET, LONDON, E.C.**  
Commission, 1½ percent. on all transactions.

**WILLIAM ALLISON, STOCK, SHARE, AND MINING BROKER, 29, AUSTINFRIARS, LONDON, E.C.**  
Orders to buy or sell, accompanied by references, punctually attended to.

**FOR SALE, EACH NETT, SHARES IN:—**  
Kitty (Lelant), 29s. West Stray Park, 23s. 10d.  
Pendown, 27s. N. Downs (call pd.), 23s. 10d.  
Uny, 27s. Bryn Gwlog, 25s. 10d.  
Gram. & St. Anbyr, 21s. South Basset, 23s. 10d.  
Prosper (Brage), 23s. 10d.

Is a BUYER of Treway, West Caradon, Ludcott, East Rosewarne. Apply to J. W. HUTCHINSON, Mining Exchange, Royal Exchange-avenue, London, E.C.

**RICHARD CLIFT, MINE SHAREDEALER,**  
late of Redruth, now 49, THREADNEEDLE STREET, LONDON, where all letters are to be addressed.

**JOHN RISLEY, 32, LOMBARD STREET, LONDON, E.C.,** SHARES IN MINES BOUGHT AND SOLD on commission, at 1½ percent. for immediate cash. Bankers: London and Westminster, Lothbury.

**JAMES HUME, SHAREBROKER, 74, OLD BROAD STREET, LONDON, E.C.**  
BUYER of Sthney Carnmeal, Uny, Crebor, North Buller, East Basset, East Rosewarne, Edward, Stray Park, West Tolgus, and East Basset.

A SELLER of 50 East Caradon, 24s. 10d. (or any part), immediate contract. J. HUME's "Circular" for May will contain special and authentic reports on Seton, Crebor, North Buller, New Wandron, East Basset, Drake Walls, &c., with advice what to buy. Single copy, 6d.; subscription, 5s. per annum.

Bankers: London and Joint-stock Bank.

**MESSRS. WARD AND JACKMAN, STOCK AND SHAREBROKERS, 2, ADAM'S COURT, OLD BROAD STREET, AND MINING EXCHANGE, LONDON, E.C.** (ESTABLISHED 16 YEARS).

TRANSACT BUSINESS IN BRITISH AND FOREIGN MINING SHARES AND OTHER SECURITIES at lowest prices, net or on commission, but not being DEALERS only execute orders confined to them.

Telegraphic messages to buy or sell shares of every description promptly executed for immediate cash, or for the fortnightly settlements.

Commission, 1½ percent. on all transactions.

May 1, 1863. Bankers: London and Westminster, Lothbury.

**MESSRS. T. P. THOMAS AND SON** beg to inform their friends and the public that their NEXT SALE of MINING SHARES by PUBLIC AUCTION will be held at Garraway's Coffee-house, Change-alley, Cornhill, London, on THURSDAY, the 21st day of May next, at One o'clock, and they particularly request parties wishing to put shares up for sale on that day to send their instructions as early as possible, and not later than May 8, that they may be advertised in the Mining Journal, and marked in the catalogue.

The following, together with many other shares, will be offered:—50 North Rhine; 10 Alfred Consols, 5 East Wheel Falmouth, 5 Bedford United, 50 Crelake, 6 Devon and Cornwall United, 425 Trumpet United, 10 South Goriand, 150 Carnwae, 42 West Penstrathal, 100 Nant-y-Iago. Parties desirous of purchasing any of the above by private contract can in most cases do so by application to the auctioneers, either personally or by letter.

T. P. THOMAS AND SON finding that their friends' property is frequently sacrificed for want of publicity, they have determined in future not to offer shares unless previously advertised in the Mining Journal.

Mining and other shares bought and sold privately.

Commission and time bargains negotiated.

**MR. T. E. W. THOMAS, MINING AGENT AND GENERAL SHAREDEALER,**  
3, FINCH LANE, CORNHILL, LONDON; and  
16, HACKINS HEY, LIVERPOOL.

EAST BASSET, NORTH BULLER, WHEAL GRENVILLE, EAST GRENVILLE, WHEAL HARRIETT, AND EAST ROSEWARNE.—MR. THOMAS, at a considerable expense to himself, is having the above mines thoroughly inspected and reported upon, by an eminent mining authority in Cornwall, and is enabled to offer to his friends and the public a full copy of the reports of the six different mines for the sum of 5s. the whole. Early application is necessary to obtain the full value of these reports.

Now ready, T. E. W. THOMAS's remarks on Roskearnow, North Roskear, North Crofty, East Seton, North Dolcoath, and Wheal Hartley. Price 1s.

**MR. FRANCIS G. LANE, 44, THREADNEEDLE STREET, LONDON, E.C.,** is at all times prepared to BUY or SELL SHARES in BRITISH AND FOREIGN MINES at the closest market prices, either for cash and immediate delivery of stock, or for the fortnightly settlement on the usual terms.

Commission, 1½ percent.

Bankers: London and County Bank.

**WHEAL SETON, COPPER HILL, WHEAL TRELAWNY, CALVADNOCK, WHEAL UNY, NORTH BASSET.**

**MR. FREDK. W. MANSELL, of 75, OLD BROAD STREET, LONDON,** strongly recommends the IMMEDIATE PURCHASE of the ABOVE SHARES, at present market price.

MR. MANSELL is in possession of information respecting the whole of them, which leaves no doubt of a great advance in the price of each of the shares mentioned.

**MR. E. BEAZLEY, MINING AND GENERAL BROKER,**  
1, BANK CHAMBERS, LOEBUR, LONDON, E.C.  
E. BEAZLEY recommends for immediate purchase, for investment, North Roskear, North Crofty, East Chilverton, North Pool, New Seton, East Seton, East Carn Brea, and Uny.

**JAMES H. COCK, MINE SHAREBROKER AND DEALER,**  
REDRUTH, CORNWALL.  
J. H. COCK, having had 10 years' experience in the mining market, and being thoroughly acquainted with mines and their management, is in a position to advise or do business on the most advantageous terms. Cash or time bargains promptly attended to.

**MR. T. H. ANDREW, MINE BROKER, LELANT, HAYLE, CORNWALL.**  
Business at all times in Providence, East Providence, Margaret, Kitty (Lelant) Tren-crom, St. Ives, Trelyon, Rosewarne Consols, Rosewall Hill, &c.

**JOHN GLEDHILL AND CO., MINE AGENTS AND SHAREBROKERS, MINING OFFICES, CORN EXCHANGE, LEEDS.**

**MR. BRENTON SYMONS, M.E., is NOW IN CORNWALL.**  
Letters requiring immediate attention should be addressed to his office, at Truro.

**WANTED, a SITUATION as MINE AGENT or COLLIERY MANAGER,** by a person of considerable experience in every department, who can give the most satisfactory reasons for leaving his present employers, and a eight years' reference as to character and ability.—Address, "A. B.," care of William Insall, bookseller, Dudley.

**TO SPECULATORS.—THE ADVERTISER,** a retired mine captain of great practical experience in Cornwall, is in a POSITION to GIVE the NAMES of SIX PROGRESSIVE MINES which are SAFE in his opinion (based on a perfect knowledge and reliable data) to ADVANCE HUNDREDS PER CENT. in a FEW MONTHS. Terms, commission on profit.—Address, "Investor," MINING JOURNAL office, 26, Fleet-street, London, E.C.

**TO CAPITALISTS.—J. MANSFIELD SMITH, SHAREDEALER (OFFICE, 38, THREADNEEDLE STREET, LONDON, E.C.),** has selected a list of mining and other shares, which he can most strongly recommend for immediate purchase.

Investors should consult J. M. SMITH's monthly "Circular," which will be forwarded post free on application.

**NORTH AND SOUTH WALES.**

**LAND VALUER AND ESTATE AGENT.—MINERAL PROPERTY** carefully SURVEYED, and correctly REPORTED UPON. First-class references in London and the country.—Address, Mr. R. W. JONES, Bryn Hyfryd, Lloek, near Holywell, North Wales.

**THOS. L. COTTINGHAM, MINING ENGINEER, MINERAL AND LAND SURVEYOR, AND GENERAL AGENT, LITTLE NESTON, MOLD, AND CHESHIRE, FLINTSHIRE.**

**CAPT. JOSEPH WEBB, REDRUTH, CORNWALL,** begs to inform his mining friends and the public generally that he now UNDERTAKES THE INSPECTION OF MINES. Capt. Webb's long experience in mining in all its departments is the best guarantee of his ability in such matters, and he trusts that, by carefully examining the mines he visits, he will be able to give them correct ideas of their position and prospects. In all cases of tin mine inspections, actual samples will be taken from all the most important points of operation, and carefully assayed.

**GOOD DIVIDENDS.—MESSRS. DAUNT AND CO., of 30, CLEMENTS LANE, LOMBARD STREET, E.C.,** have on SALE some FOREIGN GOVERNMENT BONDS, yielding 5 and 9 percent. interest, payable half-yearly, as punctually as on Consols, and are perfectly secure. Business transacted in the English Funds at 1-16th, Railways at ¼, and Mines at 1 percent.

A list of safe investments forwarded (gratis) on application. Investors will be cautioned against spurious mines.

**MONEY.—CONTRACTORS AND OTHERS** can be ACCOMMODATED with LOANS, DISCOUNTS, &c.—Apply to Messrs. WILKINSON and Co., monetary negotiators and arbitrators, &c., 25, Birch-lane, Cornhill, London, E.C.

**INVESTMENT.—MR. THOMAS SPARGO, STOCK, SHARE, AND MINING BROKER, Nos. 224 and 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C.,** publishes, every Wednesday, a GUIDE TO BRITISH AND FOREIGN MINING, and OTHER INVESTMENTS, which should be consulted by all capitalists. Post free on receipt of six stamps.

**HENRY GOULD SHARP'S RAILWAY, BANKING, AND MINING CIRCULAR,** (Gratis and post-free)

Should be CONSULTED by the PUBLIC before INVESTING. It contains reliable information and advice to capitalists, REPORTS on MINES, RECORD of MARKET PRICES, and is the only "SAFE GUIDE" for the investment of capital.

Office, 32, Poultry, London. Established 10 years.

**MR. D. STICKLAND, M.E.,** having had upwards of 40 years' mining experience in Cornwall, several years of which he has had the entire management of mines therein, enables him to GIVE ADVICE on MINES and their MANAGEMENT.

D. STICKLAND begs to OFFER HIS SERVICES in BUYING and SELLING SHARES on advantageous terms for capitalists, who will do well to consult him, either by letter or personally, previous to their investing in mines now at work, or in schemes now being brought before the public. Good references given if required. Mines inspected and faithfully reported on.

His monthly "Circular" for April contains a selected list of mines.

5, Finsbury-street, Finsbury-square, London.



## Original Correspondence.

## USE OF PEAT IN SMELTING IRON.

SIR,—I noticed some short time since in the Journal an enquiry by a correspondent as to the use of peat in smelting iron, and I anticipated that others, better qualified than myself, would furnish the information required.

Two replies to the enquiry have appeared, but one of them seems to me to be so wide of the mark, and in its tendency, if not in the statements it contains, so far from the truth, that I can only suppose it to originate from a person unacquainted with the subject in question.

Your correspondent, "Iron," states that "smelting iron with peat, in lieu of coke, is successfully carried out at the Creevelea Iron Company's Works . . . where furnaces, machinery, and appliances were erected some few years since." This would appear to indicate that those furnaces, &c., were erected for the purpose of smelting iron with peat; but such is not the case. They were erected for smelting iron, in the usual way, with coke. The whole of the actual working operations carried on at Creevelea are of the same nature as at other iron-smelting works, where coal is used as fuel. It is true that there has been an experimental trial made there, of the use of peat or peat charcoal in smelting iron, but that trial was on a very small scale, and it was totally trivial and unimportant as regards the practicability of smelting iron by means of peat, in lieu of coal.

The letter itself contains internal evidence of the facts I have stated, for it says that there is good coal at the place, and that "very extensive workings are being laid open" for the purpose of getting it. Now, if there be such an "inexhaustible supply of peat" there, and the pig-iron smelted with peat be so "first-rate" as is represented, why are these "very extensive workings being laid open" for getting coal? The only answer that I can find possible to be made to this question is, that there is neither an inexhaustible nor an available supply of peat at the place, that the pig is not so "first-rate" as it is said to be, and that there is no reasonable prospect of peat ever being used in lieu of coal for smelting iron, wherever coal is to be had. The subject of the utilisation of peat is one to which I have paid minute and earnest attention for a long time, and from my experience in this matter I am confident that the view I have just stated is the correct one.

If your correspondent, "Iron," would be so communicative as to state the quantity of pig-iron that has been smelted with peat during the last few years at the Creevelea Company's works, and the quantity of peat that has been used for this purpose, with its actual cost per ton at the furnace mouth, he would render good service in throwing some light on the question whether peat is used, or can be used, in lieu of coal for smelting iron.

B. H. PAUL.

## NORTHAMPTONSHIRE IRON ORE.

SIR,—I was totally unaware of a communication respecting Messrs. Bevan and Co.'s mining operations, which appeared in the Journal of April 18, until my attention was directed to it by a friend. But as a correspondent, signing "Crucible," has taken advantage of that communication to make me the medium of an attack upon that firm, I feel called upon to say a few words. Most certainly "Crucible" need not have informed us he was no chemist, or he would have understood that insoluble residue signified residue insoluble in acid, which it was not considered necessary to examine. To me, however, the evident purpose of the communication was to depreciate the quality of Messrs. Bevan and Co.'s ore; that being the case, I beg to say I have obtained similar results as regards the percentage of metal by means of the blast-furnace. If "Crucible" will send me his address, I shall be pleased to forward him samples of the ore.

Northampton, April 29.

W. H. HARRIS, F.C.S.

## ON THE EARLY CONDITIONS OF THE GLOBE.

SIR,—I am fully persuaded that the amalgamation of matured thought is highly essential to the advancement of true knowledge. After reading "Cosmo's" brief description of the early history of our planet, I feel disposed to offer a few observations on the ancient conditions of the globe, if you will kindly allow me space in the columns of your valuable Journal.

The Mosaic cosmogony and the early conditions, which I intend briefly to sketch, show a considerable analogy in their leading points. They seem to concur in the following successive order of general events—that the earth has been enveloped by an immense aerial and aqueous expansion; that in course of time the air and water in this expansion became more and yet more separated, till a line of demarcation was formed, the aerial occupying the higher region and the latter the surface of the solid crust; that afterwards the dry land appeared, consequently to bring forth and nourish a vegetation, as spoken of in the Mosaic record; and that next followed successive races of animals to inhabit the earth and water.

The process of refrigeration seems to be the great leading principle whereby we may be enabled to follow out in their true sequence the earth's general successive changes, from an extremely remote antiquity to the present time. In this great work the materials of the globe have been coming into closer union, and heat has been escaping into exterior space. It evidently appears that the earth's materials at one time were all of the inorganic character. It also appears that the maxima of the gaseous and fluid coverings of the globe have long since passed by, and that the solid crust has kept enlarging, until it has attained its present magnitude. Then, the question naturally arises—What has become of the waters which have been abstracted from the ancient ocean? In replying to this it may not be so easily determined how the world's inorganic and organic chemistry has disposed of them, because of the almost endless and intricate combinations and recombinations of matter in which Nature, as it were, delighteth. However, I shall endeavour to offer a few brief remarks on the diminution and distribution of the ancient waters. What might be the temperature of the waters when they prevailed in their greatest magnitude on the earth it may not be easy to determine, but there is much probability that it had a high range, amounting in some parts of the ocean, especially in the vicinity of the granitic cones and ridges, to the boiling point, or nearly. A further decrease of temperature would have a very appreciable effect in diminishing such a mass of water. I may here appropriately refer to Count Rumford's ratio of diminution of volume. He found the contraction of water for every 22° 5' from the boiling to the freezing temperature to be as follows:—

In cooling, 22° 5' to 219°	to 189° 50', 200 measures contracted 18	measures.
" 189° 50' to 167°	" " " "	16 2
" 167° to 144° 50'	" " " "	13 8
" 144° 50' to 122°	" " " "	11 5
" 122° to 99° 50'	" " " "	9 3
" 99° 50' to 77°	" " " "	7 7
" 77° to 54° 50'	" " " "	3 9
" 54° 50' to 32°	" " " "	0 2

Not only would the ocean suffer a diminution of its volume by a loss of caloric, but it would also be lessened by a part of it finding its way into the porous structure of the solid crust as the cooling advanced. As a consequence of the lessening of the ocean, an increased denudation would be going on and preparing soils for vegetation, till, in the coal era, vegetative life had attained its climax. The withdrawal of water for the support of the exuberant vegetation of this era would not be trifling, when we consider that it is computed that for every 1 lb. of coal 2 lbs. of water have been used. Besides the water used up in the formation of coal, it exists in chemical combination with certain rocks; and, moreover, how largely does it enter into the organisms of the whole living creation? Before quitting these few slight notices respecting the causes of diminution and distribution of the ancient ocean, there is another point of importance to which I am wishful to call attention—that is, the water in the form of ice in the Polar regions. In these extensive areas a vast quantity of water in the solid form is stored up and retained. Had the water thus stored been in a liquid state, it might, or a great part of it, have been occupying the temperate and equatorial regions. In these few remarks I have so far endeavoured to elucidate the recession and distribution of the early waters of the globe, by following on in the successional series of results of a decreasing temperature. Should this be the true mode of explaining the varied phases which the earth has presented in bygone times, then such phases would recur by a restoration of the causes producing them. The restoration of these causes would be to bring back the original heat of the earth that has escaped into external space. Supposing this heat brought back and replaced in the interior of the globe, it is quite conceivable how a recurrence of former conditions might ensue, so as to reduce it again to its watery and lifeless state. Then, if the original heat of the earth were gradually replaced, we should naturally expect the imprisoned water in the porous rocky crust to exhale, both subaerially and underneath the seas; the ocean to rise in temperature and augment in volume; the water in the

form of ice in the Polar regions to liquify and move towards the temperate and equatorial parts of the earth; and that by a continuance of these combined causes a watery world might again prevail to such an extent as to destroy terrestrial life. Nor need our expectations be limited at this point, for the ocean, by a further rise of temperature, giving it a still higher degree of solvent power and a greater capacity for holding matters in solution, might be expected to attain such a state as to be unfit for supporting marine life in any of its forms whatever. At such a crisis what an ideal picture is presented, when life is not, neither in the marine, terrestrial, or aerial dominions. The ocean is boiling at innumerable points, the solid crust is beginning to fuse at its protuberant parts, gases are being liberated, the atmosphere is increasing in volume; and still further on in such a course the solid crust acquires a more general and intense heat, the ocean and atmosphere become more voluminous and mixed, till the conditions of an immense expansion of aerial and aqueous materials surrounding the earth are fully borne out.—April 28.

J. C.

## GEOLOGICAL FORMATION OF THE EARTH.

SIR,—As this subject is attracting much attention in the Journal, perhaps you will allow me to submit a new theory on the subject, which is taken from an essay which I am about to publish. My theory of the geological origin of the earth and its inhabitants may be stated thus:—1. The earth is a hollow sphere. I calculate that the thickness of the surrounding crust is about 150 miles, which will leave an open space in the centre of the earth, with a diameter of upwards of 7500 miles. The surrounding shell is one mass of molten matter, with the exception of the outer surface. This ocean furnace is constantly generating gases, which fill the hollow space.—2. When these gases accumulate beyond a certain point they burst through the crust, and form the atmosphere of the earth on the outside of the globe.—3. Water is formed out of the gases when they escape from the bowels of the earth, as well as at subsequent periods.—4. The atmosphere is constantly giving off its gases to the water.—5. The rocks are formed at the bottom of the sea, being the sediment of the water.—6. The polarisation of the atoms of matter cause the crystallisation of rocks and the metallic veins; it likewise causes the formation of vegetable and animal organisms.—7. Heat and moisture are the great agents of life, but they are nothing more than agents, for it is to the polarisation of matter that life may ultimately be traced. From these premises it follows that while the sun has to do with the pulverisation of rocks on the surface, and in the formation and sustenance of vegetable and animal life, it has nothing whatever to do with what goes on in the centre of the earth, or in the rocks which lie under the soil. I believe this theory to be quite new, and if the subject interests your readers I shall be glad to send you the manuscript essay for publication.—Sloane-street, Chelsea, April 27.

A. ALISON.

## GILDENHUIS COAL—PARAFFIN OIL.

SIR,—After reading the very interesting letter of Dr. A. Adriani, published in last week's Journal, I lost no time to avail myself of the opportunity of examining the specimens, as, from the analyses given, there could be little doubt that such a material would be admirably adapted for the manufacture of paraffin oil. From its appearance it does not seem to be dissimilar to the Torbanehill coal of Scotland and the Albert coal of Nova Scotia, and is certainly not more a coal than either, so that those who maintain that the Torbanehill mineral is not coal, will probably deny the carboniferous nature of the Gildenhuis coal also—indeed, at first sight it looks like very black pitch, but, upon further examination, no doubt can be entertained that it is really coal; it is, however, soft, and much resembling asphaltum in its chemical composition. I subjoin the analyses of Blaina coal, Wigan cannel, Gildenhuis coal, and asphaltum, that your readers may compare them:—

	Blaina.	Wigan.	Gildenhuis.	Asphaltum.
Carbon .....	83.44	84.07	84.10	79.18
Hydrogen .....	5.71	5.71	8.61	9.30
Nitrogen and .....	7.59	7.82	6.54	8.72
Oxygen .....	2.45	2.40	0.75	2.80
Ash .....				

The extremely small quantity of ash will be at once observable, but that is really the only important difference between the Gildenhuis coal and asphaltum. I have not the analyses of the Albert coal of Nova Scotia or of the Torbanehill coal at hand, but, so far as I recollect, there would not be a great difference; and I see that the Gildenhuis coal has 55 per cent. of volatile matter, which would seem to confirm it. Perhaps some of your readers can give the analyses of the Torbanehill and Albert coals as compared with the Gildenhuis coal, and point out the remarkable differences, should any exist. These analyses can easily be given under the heads carbon, hydrogen, nitrogen and oxygen, and ash, to prevent confusion. There can be no doubt, I think, that a ready sale could be obtained for such a coal as a gas coal in any market; but, with mineral oils at their present price, I believe it would be far more profitable to undertake the manufacture of those, and send them to the English market. This would prove a good field for the employment of capital.

R. W. C.

## MINING IN CANADA EAST.

SIR,—During the past six months an extraordinary spirit of mining enterprise has been directed to the mineral wealth of this province. It has been reported that upwards of \$2,000,000 have been invested in these properties by capitalists in the eastern cities of the United States. The great Acton Mine, taking the lead, continues to be the centre of attraction, and to exert an influence upon neighbouring lands situated on the range and bearing of this magnificent formation. Since this mine came into the hands of the present owners, in October last, a decided change in the management is quite apparent; and, although the winter months in this latitude have very much retarded the works, and the introduction of extensive improvements in the general operations of the mine, yet I find they have been returning about 390 tons of usual percentage ores per month during this period. The prospects of the mine in general seem gradually to increase. In some of their eastern workings fresh bodies of ore are being discovered, but the greatest acquisition in this respect is a new opening situated some 800 ft. south-west of the main workings (called "Colby Pit," in honour of the president of the company), where the surface of the rock has been extensively uncovered, exposing the limestone, through which yellow sulphurets and purple copper ores are extensively diffused for a great many feet in width. Some 30 tons of copper ore have already been returned from this discovery, with prospects of a continued increase as the work progresses. From a mine of such magnitude as the Acton it is natural that large quantities of inferior quality ores should accumulate undressed. The directors, who are practical men, resident in Boston, and appear to be alive to their interest, have it in contemplation to erect some powerful machinery of the most improved construction in the coming summer, to crush, stamp, and wash these ores for market; and to give efficiency to the management have secured the services of Captain John Williams to superintend the mining department; formerly from Ludgvan, Cornwall; for several years manager of the Kilbricken Silver-Lead Mines, Ireland, and of late years agent of the Gap Copper and Nickel Mines, in Pennsylvania, whose great experience as a practical mining engineer is well adapted to the development of this great mine.

WICKHAM COPPER MINE is situated five miles north-west from Durham station on the Grand Trunk Railroad, and six miles in a direct line north-east of the Acton Mine, the geology of which is identical with that of Acton, consisting of magnesian limestone, associated with argillaceous slates and copper ores of the same character as those at Acton. Veins in the limestone have been exposed by open cuts, and a regular shaft sunk at one point about 30 feet deep, from which about 4 tons of 30 per cent. ore have been raised; and I am informed that a powerful company, with a large capital, has been formed in Boston to work this mine in a spirited manner, and from which great results are expected.

SOUTH ACTON is the name of another new mining company, lately formed to work a piece of ground immediately south of the Acton Mine. This new enterprise, taken in a single day in Boston and New York on the prestige of the Acton, has already gone up to a premium on its first cost. The bunches or shoots of copper in Acton are supposed to dip in that direction, and that a succession of productive mines exist, and only await development to be made available.

A few miles further south is situated the ROCHSTER COPPER MINE, where some copper ores have been found disseminated in limestone, and I am told looks inviting. Some 21 miles south of Acton you come to Frost Village, one of the oldest settlements in the province, which was formerly the county town of Sheffield. In this neighbourhood the Ottawa Mining Company have secured some 1500 acres of mineral land, on which the prospects for copper are very promising. In several places the green carbonates, yellow sulphurets, and purple copper ores are found cropping out to

surface, upon which this company is about to commence operations. A great many other mining companies have also been formed, with varied prospects, an account of which will be forthcoming.

JOSEPH BUZZO.

Frost Village, Canada East, April 7.

## LEAD MINING IN CANADA.

SIR,—Is it not time we had some news as to the prospects of the Ramsay Lead Mining Company? I asked at the time it was projected if you did not think the prospectus that proposed to operate for lead in Central Canada made a pretty heavy draft on our credulity? One of the richest lead fields in the world may be on the banks of the Ottawa, but will the past mining operations in Canada give us any assurance of that fact? I am acquainted personally with all the localities where profitable mining is carried on, in both the United States and British America, in lead, iron, copper, silver, and gold, from Newfoundland to Vancouver's Island; and I will make one assertion respecting these operations, and challenge a refutation of it. Wherever lead has been mined to real profit, the mineral has been found in large quantities from the time of the first explorations, and the abundance and purity of the galena have left no room for doubt on the subject. Lead has been found in moderate quantities in different parts of Canada, and that for many years, but in no single instance has a mine been worked with profit. The prospectors of the Ramsay Lead Mining Company assume it as a high probability that the Ramsay lead deposit is connected with the Rossie Lead Mines, near Odenburg, in the State of New York. That may or may not be so, but I am sure the fact is one of very doubtful encouragement, for the Rossie Lead Mines have never been profitable, and the years have yielded very little.

The Lead Mines of Missouri, Illinois, Iowa, and Wisconsin, have yielded large quantities of that mineral in a high state of purity, but there never was a time that the yield was not such as to put all question of success beyond any doubt, and to attract plenty of capitalists, without going abroad for them. The simple fact is, that no lead mines that have ever proved highly remunerative have ever dragged along before the public, year after year, without finding plenty of capital to work them.

The reason why joint-stock operations have grown so much into disrepute here, in the great centre of capital for the commercial world, I take to be because the projectors of companies have made their *ex parte* statements, and, of course, put the best side out in all cases, and—except in now and then an instance—have had no one to step forward and question or discuss the merits of their plans. I do not mean to cast any reflection on the conductors of the press, or assume they are not doing their duty, for they unquestionably do in most cases give their opinions, if they give them at all, according to their convictions. And when others know that an "operation" is not what it is represented, it is not often they will come forward to cast doubts on an undertaking, lest their motives might be misconstrued. Now, I have no rival concern, in fact, the demand for lead in times like these offers a market for all that can be smelted, nor have I any interest or feeling in casting doubts on any of the lead mines of Canada; but believing I have information respecting lead mines in that region that could not be possessed by persons who have always resided on this side of the Atlantic, I venture, for the information of the public, to throw out the above cautionary hints.

M.

April 28.

## COAL WORKING—"PILLAR AND STALL" v. "LONG WALL."

SIR,—I had determined to reply to no more of "Long Wall's" questions and remarks, but as he charges me with having misquoted a passage of his letter, I now write to assure him that it was unintentionally done, and I can only account for it from the fact that I had not the Journal with his letter by me at the time I wrote. There are, however, two or three points in his letter which I will try and explain a little, now that I am at work. First, then, for what "Long Wall" calls the inconsistency of my assertions. "Long Wall" says, "with regard to falls at the face, did Mr. Naysmith ever hear of or see a fall that entirely cut off the current of air?" Why does "Long Wall" ask such a question as this, and immediately answer it thus:—"Such cases experience tells us are very rare." Again, "Long Wall" says: "Besides, note here the inconsistency of his assertions; he asks me how I am to get in to clear such falls when he has supposed the current of air cut off?" "Long Wall" does not answer this question, which I am not surprised at, but says, "That question is best answered by asking another—how does Mr. Naysmith get in to work away the coal on either side?" I cannot believe that "Long Wall" is so slow of comprehension as not to see how it is possible to get into one or both sides of the fall with the ventilation as I have described it, while it is a matter of impossibility to continue working on the upper side of such falls as "Long Wall" describes it. We will suppose, for the sake of argument, that the roof has fallen between two (the 6th and 6th from the top) gateways on the face; such fall, of course, cuts off the air from all the places above No. 6; in this case recourse would be had to the wind-way back from the face, the temporary stopping in which could soon be removed, and thus the air kept round the working in its usual course out through the 5th to the wind-way, and in again on the 6th to the face, thus the air is kept round the whole of the workings, and sufficiently near the fall on each side to enable men to work. But "Long Wall" denies the fact of such a wind-way being kept, consequently all the workings above the fall in a few hours are filled with inflammable gas, and kept idle while "Long Wall" clears away the fall. I now ask, where is the inconsistency?

"Long Wall" again runs on thus: "Mr. Naysmith says that on the question of the ironstone, the commonest collier would contradict me," to this "Long Wall" says, "a common collier who had never seen the long wall may do so, but Mr. Naysmith does not say that he himself would do so." There is an old saying in the North of England which might be here applied to "Long Wall": "It runs thus:—'There's a name as dull as they that winna ken,' as he certainly might have gathered from my letter that I deny the possibility of one-half of the iron ore being obtained, and yet 'Long Wall' says 'There has been no difficulty in obtaining all the ironstone.' If I had made such an unqualified assertion as this in the face of facts to the contrary, I should have no hesitation in turning round and publishing (as 'Long Wall' evidently wishes me) the cases of apparent neglect that have come under my notice in the working of the pillar and stall. "Long Wall" again says, "With regard to explosions in the pillar and stall, Mr. Naysmith hints a most terrible charge against the whole race of colliery viewers." Now I did not hint that "Long Wall" had been guilty of any neglect; how could I do so, when he is so nicely concealed? Therefore, I cannot understand what he drives me to do. If he wants me to say more he must be more explicit when next he writes. What I wish to refer to is the improper working of the pillar and stall, applies to a small number, and not as "Long Wall" would have it the whole race of colliery viewers; he evidently wishes to include himself, or he would not have made such an observation.

Goginan, April 28.

J. NAYSMTIH.

## THE LEAD MINES OF CARDIGANSHIRE, AND LEGITIMATE MINING.

SIR,—It is an acknowledged fact that this county is as rich as any in the principality for the production of silver-lead, and that many large fortunes have been made from some of its mines, and there are many now working which return good dividends to the shareholders. What I wish to call attention to is the injurious system, now carried on to such a most serious extent, of over-valuing and reporting mines, to the ruin of hundreds, and the discredit of the mining population of the county, and more particularly mine managers, who are censured by the public for allowing such impositions to be brought out in their immediate neighbourhood, and represented sometimes as situated on the same rich lodes as their mines, and (as a matter of course) producing large quantities of rich ore. Many mines in this immediate neighbourhood have been so brought out, some of which are now amongst the things of the past, and others dragging out a miserable existence, simply because there is yet a little money in the (poor duped) shareholders' pockets. It must not be supposed that I wish to oppose legitimate mining, or the opening of new mines, as I believe there are many valuable deposits of ore yet undiscovered, but what I do oppose, is a few individuals joining together to form a company, and calling upon the public to give sums, varying from 3000l. to 8000l., for worthless pieces of ground, for which they did not give one farthing, and, of course, the premium goes into their pockets. Many *babble schemes* of this kind have been lately brought before the public, and have thrown discredit on the whole mining community. Now against similar schemes I think the public ought to be put on their guard, and before they embark in such undertakings, I would advise them to take the opinion of some of the well-known and established managers of the district, whose opinion would be a sufficient guarantee of the honesty and merits of the undertaking.

But what I should most wish is that a society should be formed amongst the mine managers and captains of the neighbourhood to uphold legitimate mining, and quash these *babble schemes*. If some of our most influential managers would move in such a matter others would soon follow, and this society once established the mining of this country would soon assume a more legitimate aspect. The society might be formed on this basis: that all members be held responsible to the society for the truth of their respective reports, and if any scheme should be brought forward similar to those before referred to, the members of the society should appoint one or more of their number to examine and report upon them (those selected for that duty should be appointed by ballot of the whole), and when such reports are made they should be published in the Journal, and thus the mining public would have a sufficient guarantee of the merits of the undertaking in which they may be inclined to speculate.

Such a society would, I think, be well hailed by the mining adventurer, and the mining public as a great boon, and confer on the individual members of the society a lasting obligation. I wish to see a society formed for this purpose, whose meetings could be held at Aberystwith, and at which many other things beneficial to the managers of mines and others might be discussed, which I have not time now to enumerate; but if any parties will give their names as members to commence with such a society, I will most willingly join them, and render any assistance in my power towards its formation.—Goginan, April 27.

J. NAYSMTIH.

## LANIVET—ITS MINES AND MINERALS.

SIR,—The three years continuous finding of immense deposits of tin in this neighbourhood has not only caused a great sensation in a pecuniary point of view, but raised much discussion respecting the formation of our terraqueous ball; and in noticing the geological formation of the surrounding hills, with their tin, iron, and copper lodes, cross-courses, &c., it may not be out of place to pay a little attention to the present state of the mining market, which, in a geological sense, presents a complete chaos, inasmuch as some portions of the same strata now fetch from 200 to 3000 per cent. beyond others, although the strata are similarly situated (geologically), equally advantageous for profitable working, and the principal holders equally respectable, and as well skilled in management. In short, some parties invest on finding a few good nuggets of tin. Some regard the diving rod, but the generality, especially experienced mine captains, run with the multitude, and invest to please their friends. Geological position appears to be the last thing thought of. Mentioning these circumstances to an old miner, a few days since, he merely replied, "Where 'tis, 'tis," meaning where the mineral is there it is to be found, and that geologists and mineralogists know no more about the formation of our globe, in a mineral point of view, than the most illiterate men.

Not satisfied with this summary dealing, but believing that the Almighty has set well-defined laws for the discovery of metallic substances, I ask the favour of making a few observations through the medium of the Journal, with a view, if possible, to enlist some experienced geologists to spend a little of their summer researches on the mineral, picturesque, and romantic hills of this highly-interesting and health-preserving district. To commence with the most fully developed hill—West Downs, which is a large round-backed hill, embracing an area of about two square miles, very steep towards the east, and gradually undulating towards the west. The formation is transition rock or soft *killas*—*grauwacke*. On the south-east and south it forms a junction with primary



and secondary granites. On the west and north hills, porphyry, and grown stone; on the north-east and east, kila, marble, and d. grown. The tin is of the best quality, and free from iron, tungsten, molybdenum, and every other weed; it is disseminated in innumerable veins through the entire formation, similar to the Old Fat Work Mine and Carclaze, though there are three or four courses on which the ancients worked running from east to west, which are deemed more valuable than other portions. The iron course runs from north to south. This hill has been worked from time immemorial; and, though many geologists and practical miners have examined portions of the formation, it was never thought anything more than a common stream work, and four years since the mineral property of the hill was purchased at about 80*l*.; it now sells at 20,000*l*. and a great prospect of doubling that amount within three years.

The next locality to which I would invite the attention of geologists and mineralogists is the north-west portion of the parish of Laxulyan, in which, during the past 12 months, surprising quantities of tin have been discovered. In one district—Wheat William—the lodes are on the junction of primary granite and kila. The felspar of the granite has a more beautiful water-mark than any Australian or Californian gold quartz, and the nuggets of tin vary in size from a large nut to a pin's head, and contain pebbles of wood-tin of various hues. The produce of the lode is a guinea's worth per 16 scks.

Bodmin, April 27. ALPHAS.

#### THE HARTLEY ACCIDENT RELIEF FUND.

SIR.—The reply to mine of the 20th, in last week's Journal, is still more unfair to the Hartley Committee, and it is quite evident that the writer has not made himself acquainted either with the Hartley report or the case it is compared with.

There is nothing in my note to imply that the numbers at Lund Hill and Hartley are equal. At Lund Hill, 89 adults and 200 children were left on the fund; they will be relieved as long as the fund (10,673*l*.) will last; but, as they expended 4000*l*. nearly the first two years, it must soon close. At Hartley, 184 adults are provided for life, or until they marry, and 311 children (25 posthumous) for an average of 14 years. This, at an increased scale of allowance, easily accounts for the large sum required.

Again, if the report is referred to, it states the 4571*l*. is set apart "for education of the children, medical attendance, expense of management, &c., and claims still pending." Why does he, then, remark only on the smallest item? By "medical attendance" must be understood what is customary in this district—free attendance on the widows and orphans in case of illness. The resolution to keep the boys at school one year longer was only passed at the general committee meeting, at which the executive report was adopted. As to the interest, the simple answer is that only one half-year's interest had been received when the balance-sheet was drawn up. The investments and rate of interest are stated in the report. All the information asked for has been published at various times, and, I think, the writer should have made himself acquainted with all the facts of the case before publicly charging, by implication, a committee of gentlemen with want of integrity who have devoted much valuable time, gratuitously, to the distribution of a very large sum of money.

Newcastle-on-Tyne, April 29. HENRY TAYLOR.

[We regret the remarks which have appeared in the Journal should have been taken in a different spirit to that intended. Nothing could have been further from our intention than that of reflecting upon the conduct of the gentlemen forming the committee, who, we are quite ready to admit, deserve the warmest thanks for the valuable time they have gratuitously devoted to their laborious duties. The information desired was that which has been called for by correspondents, and which we were anxious should be rendered for their satisfaction. Being favoured with that by the committee, we shall take an early opportunity of making an intelligible digest of the whole statement, which we trust our correspondents, and all concerned, will consider faithfully rendered. So vast a subscription, so promptly furnished, renders the matter of considerable importance, and it being one in which the public generally is interested, makes the disposition of the fund more than usual interest.]

#### THE ACCIDENT AT BOTALLACK MINE.

SIR.—In writing to you last week, I accidentally omitted to enclose one of the sheets, containing the most important part of my remarks. While offering my apologies, will you allow me to give it now?

After paragraph four, read:—On reaching the surface the cause of the irregularity of our ascent became evident. There was no cold injection water for the winding-engine. I was informed that this condensing water had already served for five or six engines; and, at any rate, on that occasion it arrived quite warm, and unfit for use. On finally leaving the air-pump it was abundantly charged with latent steam, so as to feel extremely hot to the hand. [Then follows the remark about the mode of cooling the injection water at Mansfield.]

On thinking over the details brought out at the inquest, I was surprised to find that the men had left the way clear to the bottom of the shaft. Had this not been the case, there is a distant probability that some lives would have been spared, instead of the miners being propelled between the timbers which hung over their heads, under the lowest working in the 180, and causing their deaths before they reached the bottom of the shaft.

To give some local explanations for the sake of those who are not acquainted with the mine. The shaft is so inclined that it is necessary to substitute switches for putting the railway in communication with the various levels by moveable connecting rails, resting on longitudinal sleepers. They are placed on one side, except when it is intended to fill the skip at that point. As the shaft is being continually sunk, there is always a portion without rails—at present several fathoms—but the men never require to get in there; they might be compelled invariably to keep the connecting rails in communication with some level below the skip, so that if the chain broke it might run into the level instead of being dashed to the bottom. The addition of a powerful elastic buffer at the lower end of the miners' "gig," and a similar one in the level alluded to, would probably be of eminent service in breaking the shock. The engine and break should be continually tested, and the latter before every journey. Any miner found to have broken these regulations should be instantly dismissed, without appeal; a notice to that effect being hung up at the counting-house.

Imagine a passenger railway, working with all possible skill, but terminating in a steep inclined plane overhanging a river; a station, moreover, close to the lower extremity of the incline, and nothing in the world provided, beyond the known excellence of the machinery, to guarantee the passengers from being tilted into the river if an accident occurred. Circumstances very similar were fulfilled at Botallack, at the time of the last catastrophe.

W. P. JERVIS.

#### THE ACCIDENT AT BOTALLACK MINE.

SIR.—Reading the interesting account, in the Supplement to last week's Journal, of the fearful accident and loss of life at Botallack Mine, reminds me that many widows and children must be left unprotected. I would, therefore, suggest that at once a committee be formed to obtain subscriptions for their relief. That course proved successful in the Hartley Colliery, and for many similar occurrences. Let the working miners in every mine appoint a committee, and no doubt, if an appeal were made to the ministers of various denominations, they would assist in promoting the collections in the different places of worship. If some of the leading men connected with the mines in the two counties would take the matter up there is little doubt that such a sum may be raised as would keep the families from want and outside the Union house. I shall be willing to co-operate in the district of Tavistock.

T. NICHOLLS.

Bedford Ironworks, Tavistock.

#### "PAY YOUR CALLS."

SIR.—At nearly every meeting of shareholders in mines we see an item in the accounts as follows—"Arrears of calls," so much. If an examination of the particulars of these arrears is made, it will be seen that certain parties are back, not only in one or two calls, but frequently in six, seven, or eight of them. Is this right? Is it just to those shareholders who pay their calls regularly? Even the defaulters must answer in the negative, for they know right from wrong, as well as other people. I do not object to any man being one solitary call in arrear, as it may not always be convenient to pay it; but I do say that if any speculator exceeds this his shares not only should be forfeited, as a punishment to the amount due to them; it being understood, however, that if he pays the amount of his calls no further proceedings shall be taken against him. Many will say that, as soon as he has paid his calls, his shares should be restored to him, no matter whether the value of the shares at the time he pays his calls be more or less than the calls amount to. I say nay; they should not be restored, for the moment a man finds it is not in his power to continue paying the calls he should either sell his shares or resign them to the company, which will readily take them on his paying up his proportion of the expense to the time of his resigning them.

Surely the man who pays his calls regularly should have some advantage over those who do not pay them until their shares are forfeited, and legal proceedings taken against them. How often does it happen that a speculator refuses to pay his calls, and, in consequence, has his shares forfeited, and which at the time of forfeiture are probably not worth one-tenth the amount he is indebted to the company, when within a few months afterwards a good discovery is made, which sends the price up from a few shillings to several pounds. This I say frequently happens; but how now does he act? Why, he petitions the shareholders to restore him his shares, and, if they refuse to do so, there is no name bad enough for them. I say that, when once forfeited, there should not be any restoration. Let the man who pays his calls have the benefit of the forfeited shares, as, otherwise, I fear there would be a great many more arrears of calls than there now are, and the mines would soon stop for want of funds.

I and a few others have lately drawn a good deal of obloquy on ourselves, because we have insisted that the calls due in certain companies shall be paid, and have delivered legal proceedings against them. There is no man who pays his calls but must commend us for the steps we have taken, and as for the others, it matters not what their opinion may be. To go mining on the system of these defaulters is a perfectly safe one for them, if they were not compelled to pay up, for to them it would be "heads we win, tails you lose."

Just see how their system works. A person buys 50 shares in a mine at (say) 2*s*. each, so that his outlay is just 5*l*. In two or three months a call is made of another 2*s*, which he does not pay the least attention to; in another two or three months another call is

made, again he pays no attention to it; another call is made, and yet another, and still not the least attention is paid to them. The secretary has written repeatedly for the amount due, but he might as well have whistled figs to a milestone; his letters are thrown in the fire. The secretary is now blamed for letting these men owe so many calls, but what can he do more than he has done? At every meeting the accounts are produced, the amount of calls in arrear are entered, and the names of the defaulters, with the amount due by each, are placed before the shareholders who attend the meeting. It rests with them, and not with the secretary, to forfeit the shares, and to order that the defaulters' names shall be handed over to the merchants. The poor secretary generally gets all the blame, whilst all rests with the shareholders. I repeat that he has done all he has the power of doing—he has written and written, until he is tired of writing; he has barked to no purpose, the shareholders must now order him to bite.

Some there are who say that after a share is forfeited, we have no right to ask them for any calls due, the forfeiture pays all off. To my view, and I am sure that of every man who has the least notion of business, such an idea is preposterous. Are these men to be allowed to avail themselves of all discoveries that may be made in a mine, whilst other men find the money to make them with? In short, are such men to go mining with other people's money? For such it really amounts to. Amiable individuals! A discovery is made, the shares are saleable at a high price; they pay the calls they had otherwise no intention of paying; they sell their shares, and pocket the profit. If no discovery is made, and the shares cannot be sold for the amount due on them for calls, they are to be allowed to forfeit them, and quietly quit the concern, leaving the other shareholders to pay the amount owed by them! This is mining with a vengeance. Again, some say we should proceed against the defaulters before we forfeit their shares. Why, considering the law's delays, a man may go on for 12 months in a mine while a lawsuit is pending, and take all the prizes that may turn up, and leave all the blanks to those who pay the calls. A pretty doctrine truly. I say, that when at a meeting of the shareholders any shareholder happens to be more than one call in arrear, a resolution should be passed, stating "that if all calls are not paid up by a certain day the shares of the defaulters shall be forfeited to the company, and that their names shall be given up to the merchants, to be proceeded against according to law." Let this plan be strictly adhered to in all calling mines, and the arrears of "calls" will be found to be very trifling. I shall be glad if some other correspondents will follow up this subject. I again say "PAY YOUR CALLS," and steer clear of the lawyers, or they will quickly let you know that their "calls" must be paid.

I have nothing to say to "Omega" this week; he is down, and it would be cowardly to give him another hit. I will, therefore, allow his friends to pick him up and attend to his wounds.—Addison-terrace, Kensington. A CAUTIOUS MAN.

#### NEW AMALGAMATING AND WASHING MACHINES.

Fig. 1.—Scale,  $\frac{1}{4}$  inch to 1 foot.

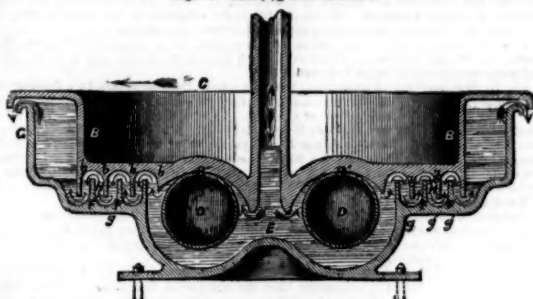
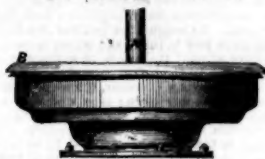


Fig. 2.—Scale,  $\frac{1}{4}$  inch to 1 foot.



Mr. Wm. Reay, jun., has recently patented an improved apparatus for the extraction of metals from their ores by amalgamation; and, as he has devoted more than nineteen years in various parts of the world to the study of the metallurgy, &c., and amalgamation of the precious metals, there is cause to hope that his experience will have enabled him to suggest a machine of really practical utility. We have been favoured with the drawings and provisional specification of the patent, and are thus enabled to give a diagram of the apparatus, with an explanation of its use and principle. The principle of the process appears to be to force the ore mixed with water into mercury, or rather, through it, assisted by various frictional contrivances to complete the pulverisation of the ore, and to clean the surface of the gold, and to afford a very large extent of mercurial or mercurialised surface over and through which the pulverised ore is to be compelled to pass. This will be better understood by reference to the adjoined drawing and description.

The pulverised ore and mercury enter the machine through the hollow revolving shaft, A, which is of sufficient height to contain a column of water able to overcome the resistance of the columns of mercury through which the ore must pass in its transit through the cover and concentric bells, B, B, b, which revolve with the shaft, A. The concentric rings, g, g, in the base (which is fixed) contain each sufficient mercury to furnish a column of mercury from  $\frac{1}{2}$  to 2 in. deep at the outer rim. The central mercurial basin is filled with mercury, and the balls or shells, D, D, are floating upon it; and, by the rotation of the bells, they give a gentle friction to the gold to cleanse its surface before it passes through the three outer concentric rings of mercury. The machine will make from 10 to 25 revolutions per minute, which will give a speed of about 150 or 160 feet per minute to the periphery of the outer bell, which, being of itself 54 inches in diameter, must, therefore, cause the ore passing through it to pass over an enormous surface, and in order to render more intimate the contact between the gold and the mercury, and make the film of argentiferous water thinner as it passes under the edges of the bells, these edges are, in certain cases, to be plated with some hard alloy, capable of being amalgamated slightly by mercury, which will thus effect an intense chemical and electro-galvanic contact between the mercury and the edge of the bell, and, therefore, not only will the film be attenuated, but also as the bell and copper or alloy is insulated from metallic contact with the rings, a true galvanic current can be perfectly established to assist the reduction of the gold: 6 to 7 lbs. of ore per minute will pass over 15,000 square feet of cleaned mercurial surface, and the inventor states that, with less than 1-horse power, this machine will reduce from 6 to 8 tons daily.

Although the practical value of the machine has yet to be proved, it will be at once perceived that the gold is, four different times, forced through a column of mercury of 12 inches in height, under the most favourable circumstances to induce its most intimate contact with the mercury; so that if the gold is of such a quality, or in such a condition as to be absorbed by current, or in transitu amalgamation, this machine will allow none to escape; even were the gold not to be absorbed by the mercury, the most of it would be deposited, highly concentrated, in the recesses of the concentric rings. This machine will prove highly valuable for those ores containing rich red gold and few sulphides; and appears to combine all the necessary elements for successfully separating the divided mercury and amalgam from ores which have been previously amalgamated by any other process.

**THE CAUSE OF BOILER EXPLOSIONS.**—An examination, of considerable interest, into the cause of boiler explosions has been made by Mr. Robert Rigby, jun., of Audley, Staffordshire. As the results of his investigations and experience he enunciates the theory that the cause of boilers exploding is the sudden ignition of gases within the boiler. He considers that the manner in which the gases are produced is that when the water falls below the highest point in the boiler, which is acted on by the fire, the plates of the boiler above the water line become heated and decompose the steam in contact with them into its component gases, oxygen and hydrogen. These gases, in consequence of their great affinity, being in the exact proportions or quantities to form water, are of a most explosive character, and only require to become red hot, or a communication by a flaw in the boiler with the fire to ignite them, when a violent explosion takes place by their uniting again to form water. This theory has the advantage over the others for two reasons; first, because the only condition requisite to produce these gases is the water getting low in the boiler, which has been invariably the case in all the boiler explosions that have come under his notice; and, secondly, because the uniting of these gases in a confined vessel like a boiler will produce results corresponding with those accompanying what are very correctly called boiler explosions. He observes that boilers bursting from an overpressure and expansion of steam and boilers exploding are as distinct as they are different in the effects produced by them—the one merely gives an outlet for the steam and water, the other blows the boiler to pieces and scatters it in all directions. Alluding to the recent boiler explosion at Shelton Bar Ironworks, he remarks that if there had been plenty of water in the boiler at the time the pressure is said to have collapsed the flue, he thinks the result would have been no more than a rush of water and steam through the fracture; but the boiler would not have exploded, or moved far from its place. It is more than probable that the boiler was short of water, and that the disastrous effects produced were caused by the explosion of gases inside the boiler, formed by the steam coming in contact with the heated surface; for he knows of no other power in connection with the generation of steam which could "cut through" the middle of  $\frac{1}{4}$  in. plates all round the bottom of the shell of the boiler, severing them from the bottom, and scattering the fragments in all directions, forcing the flue inwards on the fire, and projecting, "like a rocket," the greatest portion of the boiler, weighing many tons, up to a considerable height in the air, and carrying it to a distance of "105 yards from its original position."

More than 12 months since Mr. Rigby stated his belief that "an explosion might take place when the steam gauge indicates no greater pressure than that at which the engine is usually worked," and this view has been recently fully confirmed by a boiler burst at Hill at a pressure of 15 lbs. only, although it had been recently tested at 50. On leaving its bed it struck a chimney some yards off, and, rebounding, fell into its old place, with its ends reversed. A piece, 1 ton weight, was blown over a high wall, and fragments were scattered around for a hundred yards. He continues that this boiler is only stated to have burst, but from the effects produced it may safely be called an explosion. In conclusion, he says that the subject is becoming of the greatest importance, since economy in the generation of steam seems pushed to its utmost limits at our forges; and if the reason given as the cause of the boiler at Shelton Bar exploding—namely, that of the steam rising about 10 lbs. per square inch above its working pressure—be correct, then he says that there are thousands of men working at a very fearful risk of their lives; for boilers of a very similar construction are now generally used at the forges throughout the county.

#### Meetings of Mining Companies.

##### PENDEEN CONSOLS MINING COMPANY.

The ordinary two-monthly meeting of shareholders was held at the London Tavern, on Tuesday.—Mr. W. BAWDEN in the chair.

Mr. D. COHEN (the secretary) read the notice convening the meeting, and the minutes of the last were read and confirmed. A statement of accounts for the two months (February and March) was submitted, which showed a profit of 75*l*. 7*s*. 11*d*. The balance in favour of the mine was 1237*l*. 6*s*. 8*d*. The report of the agent was read, as follows:—

April 25.—Since the last general meeting the 142 north has been driven 2 fms. 4 ft.; the lode is 2 ft. wide, producing copper, but not sufficient to pay. The 142 south is driven 5 fms. 5 ft. 10 in.; the lode is  $\frac{1}{4}$  in. wide, composed of iron, quartz, pryan, mudioc, and tin, but not enough to value. We have 10 fms. more to drive in this and before we get under the tin ground in the bottom of the 130 south. The 130 north is driven 3 fms. 2 ft. 3 in.; the lode is 3 ft. wide, producing copper, but not to value. The 130 south is driven 8 fms. 3 ft. 6 in.; the lode is 3 ft. wide, 40*l*. per fm. for tin. We have also out trip-plat in this level, and are laying down tramroad, in order to discharge the large quantity of tinstuff we shall raise when the winze sinking below the 118 is communicated with this level. The 118 south is driven 4 fms. 3 ft.; the lode in this end has fallen off in value, but it has improved since setting-day, and I believe will further improve, worth 18*l*. per fm. The 118 north is driven 6 fms.; the lode is poor. The 106 north is driven 3 fms. 3 ft.; the lode is 1 ft. wide, poor. In the slope 10 fms. behind this end the lode is 2 ft. wide, worth 8*l*. per fm. The 106 south is driven 5 fms. 3 ft. 9 in.; the lode is  $\frac{3}{4}$  in. wide, worth 25*l*. per fm. The rise in back of this level is worth 20*l*. per fm. The 94 south is driven 6 fms. 4 ft. 6 in. The lode in this end is more congenial for tin, the last 6 ft. driving also letting out more water, which is a good indication. The 32 north is driven 10 fms. 3 ft. 11 in.; the lode is 3 ft. wide, composed of quartz and pryan, but poor. The 82 south is driven 7 fms. 5 ft. 6 in.; the lode in the end is looking more kindly, and producing occasionally stones of tin. The adit level south is driven 7 fms.; the lode is small and poor. The copper stops in the north part of the mine, three in number, are worth on an average 8*l*. per ton.—JAMES WARREN.

A letter from Mr. White, the purser, was read, to the effect that he regretted they had not been able to return more tin during the past two months, which was attributable to the very dry weather. They had in the first month nearly 10 tons, and had there been a sufficient stream of water there would have been sold in the two months nearly 20 tons. There were now thousands of sacks of tinstuff broken in the mine. The mine was opening very well—better than anticipated. There was no doubt it was only a question of time to get the steam-stamps in order to return good profits to the shareholders.

The CHAIRMAN said the committee had entered into a contract for the purchase of a 32-inch engine and stamps, which would be supplied by one of the first makers in Cornwall (Messrs. Harvey and Co.), who had sent in the lowest tender. It was agreed that the heavy portion should be upon the mine within ten weeks after the contract was signed, and the lighter portions some six weeks subsequently. Shareholders would not collect that hitherto there had been only nine water-stamps employed to crush the tinstuff, and five of those, it appeared, had been inoperative from want of an adequate supply of water, otherwise 20 tons of tin would have been returned during the past two months, which, at the rate the tin was sold at (67*l*. per ton), would have realised 1340*l*. The steam-stamps would have 32 heads, each being double the weight of the old water-stamps. If they could return 20 tons of tin with nine heads of water-stamps, it was but fair to calculate that 32 heads of steam-stamps would return 70 tons, or about 4690*l*. which would make a difference in the two months of 3350*l*. The ore already opened in the levels would supply the stamps at that rate for at least six months, during which period there would be left a net two-monthly profit—after deducting one-third for additional expenditure—of 2339*l*. Up to the present time the copper had not done much for them, and he was afraid it would do less for some short time. They had driven the 82 fm. level about 10 or 11 fathoms during the past months, so that if there was anything of importance in 20 or 30 fms. driving it would not be long before it was reached. Messrs. Harvey and Co. had agreed to give four months' credit for the payment of the engine and stamps from the time of delivery. There was reason to believe that during those four months considerably more tin would be returned than would pay for the purchase of the engine and stamps, as well as for their erection. Shareholders, therefore, might confidently hope that in six months from the present time the committee would be in a position to recommend a dividend, which he hoped to see repeated at each succeeding meeting for a long time to come.

The SECRETARY, referring to the accounts, stated there was one item of 300*l*. for compensation for land, &c. A satisfactory arrangement had been made with the lord for all the land required for the erection of the stamping-engine, dressing-floors, and a lease of nearly the whole stream of water on the estate; also the materials at Bennett's water-stamps and mills, and some materials already prepared for a water-wheel. The whole had been paid for.

Mr. CURLISS enquired the amount at which it was estimated the total cost would be, including the building of engine-house, &c. The SECRETARY replied about 2000*l*.

Mr. OXTON enquired the value of the end in the 118 fm. level south?

The SECRETARY replied that it had again improved to 18*l*. per fm.

Mr. BIRDSEY believed that at the present time there was discovered in Pendeen something like 50,000*l*. worth of tin.—Upon the proposition of Mr. CURLISS, seconded by Mr. OXTON, the reports and accounts were received and adopted.

Mr. OXTON proposed, and Mr. McCALLAN seconded, a resolution to the effect that the contract entered into with Messrs. Harvey and Co. for a 32-in. stamping-engine and stamps, for 1450*l*. be confirmed.—Carried unanimously.

Mr. EDWARD COHEN, without in any way reflecting upon the tact of the committee, thought it was inexplicable that a more adequate supply of stamps had not been erected at an earlier period, as from the remarks of the Chairman it would appear that for some time past the returns of tin had been limited only by reason of inadequate stamping-power. There was no doubt it could be easily explained, but until the explanation was given he feared some shareholders might, *prima facie*, assume there had not been that foresight exercised which had, he believed, hitherto been displayed by the committee.

The CHAIRMAN said the explanation was that until recently it was not known what extent of ore ground would be opened up. Until that had been ascertained it would not have been prudent to have incurred the expense of erecting steam-stamps.

Mr. BIRDSEY said that a letter he had received from the mine stated that the 118 had gone over 16 fms. of ground, of the average value of 60*l*. per fm. There were 10 fms. coming in at the 142, and the lode in the 130 was worth 40*l*. per fm. He (Mr. Birdsey) found fault with the report of the agents, because it did not mention a winze that had gone through a course of ore from the 118 to the 130, of the value, for the whole depth, of nearly 90*l*. per fm. The 106 end was now worth 25*l*. per fm., and the rise above the 106 was worth 20*l*. per fm. From the 94 end water was issuing very freely, which was a very favourable indication. He had no doubt in another fortnight the end will have reached the ore ground, when there would be fire and going through ore ground to an extent being something like 800 fms. of tin ground. He believed the tin went up nearly to the surface. He thought it was not too much to say that it was one of the richest pieces of tin ground in the county, and could be taken away at as small a cost.

The committee of management were re-elected, with thanks for past services. A vote of thanks to the Chairman terminated the proceedings.

##### CWMBRANE MINING COMPANY.

The first ordinary general meeting of shareholders was held at the company's offices, Crown-court, Threadneedle-street, on April 24, Mr. CUTBELL in the chair.

Mr. C. W. THOMAS (secretary) read the notice convening the meeting.

The CHAIRMAN said, as the present was the first meeting of this company, the directors had had prepared a statement of accounts showing the amount of capital expended in the purchase of the property, and in bringing it into a working condition. They would also submit a report which would inform shareholders of the position and prospects of the undertaking; and by a report from the managing director (Mr. T. P. Thomas), who was well versed in mining operations, it would be seen it was his opinion the shareholders were fully justified in believing that Cwmbrane would prove itself a productive property. A letter had likewise been received from Mr. Thomas, informing them of the satisfactory result realised by the deepening of the shaft. Indeed, the result appeared to be of such a character as to lead them to hope that after the present 6-inch level had been liquidated the mine would be in a position to pay the balance-sheet it would be seen that the amount realised by the returns of lead was only about 400*l*. less than the outlay which had been incurred in effecting a general improvement in the working details of the mine—which, considering the short time the present company had been at work, and consequently, the limited scale of operations carried on, was a result which could not fail to be satisfactory to all interested.

The balance-sheet (showing assets over liabilities amounting to 1684*l*.) was taken as read.

Mr. THOMAS, referring to the balance-sheet, said he had understood that the agents' expenses were have been included in the purchase of the mine, and that it included the wages paid to the captains at the mine.

The CHAIRMAN, in answer to a question, stated that their managing director had agreed to accept one-half of the amount of remuneration originally proposed, until such time as the mine was in a sufficiently flourishing condition to enable the company to better remunerate him. He might mention that the directors had visited the mine, but that no charge had been made for their travelling expenses.

The SECRETARY then read the report of the directors, as follows:—

The directors have pleasure in handing you the following report. The mine was commenced working in February, 1862, but previous to being able to raise any ore the different levels and shafts had to be repaired and timbered from surface to the 30 fm. level. This having been completed, the driving of the levels and sinking of the shaft were resumed, and to which the underground operations have been chiefly confined, although a large quantity of lead has been raised from the backs of the levels driven by the former proprietors. A new engine-shaft has been sunk from the adit to the 30 fm. level, in order that the workings might be carried on with greater speed, and at less cost: this shaft is now being sunk through a good lode to the 40, and will be completed in the course of a few days. At surface many improvements have been made, houses erected, and the dressing-floors entirely renovated and remodelled. It will be seen by the accounts that the sum of 3441*l*. 17*s*. 10*d*. has been expended on working, opening, and improving the property, and 2350*l*. 11*s*. 8*d*. realised for lead raised and sold during the past twelve months, leaving a balance of expenditure above receipts of 1111*l*. 6*s*. 2*d*. which was rather more than was anticipated would be required to bring the mine to the present state: but taking into consideration the very promising appearances of the lode in the bottom of the mine, and the quantity of lead already discovered, the directors are of opinion that a call of 10*s*. per share will be amply sufficient to pay off all liabilities, and to bring the property to a dividend state, assuming the present favourable ap-



perances of the lode to continue. In conclusion, the directors call attention to the encouraging and very satisfactory report of the manager.

The report of the managing director was as follows:—  
April 16.—We commenced operations in February, 1862, partially, but not fully until March, the former proprietors having February to dress and take away their ore. Upon going through the mine we found the levels in a very bad state, being full of stuff, the timber broken, and very little ventilation. We found also that the ore had been followed in all directions, and all that could be got away upon tribute had been. We found, however, that a large body of ore ground had been taken away above the 30 fathom level, and finding it good in the bottom of that level we felt there was a fair chance of having a mine below. The former proprietors having sunk a perpendicular shaft, which instead of taking the lode at a moderate depth had intersected it in the adit, and, consequently, the deeper they sunk the further they were from the lode, we found it would be necessary to sink a new shaft from the adit upon the lode, which would save our sinking and driving in dead ground, and enable us to prove the lode as we sank, and thereby save great expense and time. We found also at the surface the dressing machinery, lighting-hutches, and the floors were in a very bad state, and required to be remodelled, and in most cases the machinery had to be replaced by new. We found also that the miners, for want of a suitable building, had their powder deposited in the boiler-house, a very dangerous practice, and that it was desirable a suitable building should be erected for them. I am now able to announce to you that the whole of these alterations and works have been made, and all charged for. It will be seen by the statement of accounts that these works have not been accomplished without very considerable expense, and that they form a very large item in our expenditure during the past year. With regard to the underground operations in the mine during the past year, I have to inform you that we have cleared out and timbered the levels; we have thoroughly ventilated the mine by rises and winzes; we have driven cross-cuts about 40 fms., and discovered two new lodes; we have sunk and timbered a new engine-shaft from the adit 20 fms., and put in rods and pitwork in same. We expect to get this shaft down 40 fms. in about a week from the present time, when we shall commence driving a 40 fms. level, and expect to be laying open a valuable piece of new ore ground. In addition to the above-mentioned work we have extended the 10, 20, and 30 fathom levels about 150 fms., and have made discoveries which have enabled us to make returns of lead ore to the amount of 23501 lbs. 8d. With regard to the future prospects of the mine, I consider them very good and encouraging, the lode in the shaft for 8 fms. sinking having improved in depth, and produced from  $\frac{1}{4}$  to 2 tons of rich lead ore per fm., and although it is now a little disordered and not quite so good, it is still producing a half ton per fathom, and from its appearance likely to improve again. The improvement in sinking upon this bunch of ore is important, as we have a right to presume we may have similar improvements in the other bunches of ore to be seen in the bottom of the 30. We hope also to find a similar improvement in the two new lodes which we shall cut in the 30 fms. level in about two months, as we found the ore ground longer and more productive in the 20 than in the 10 fms. level. With regard to our returns for the next twelve months, we hope to increase them very materially without adding to our monthly cost.

The following letter was also read:—  
April 25.—The engine-shaft is now down 10 fms. below the 30, and I have great pleasure in being able to report that the lode is greatly improved in the last 6 ft. sinking, and will produce all of 2 tons of rich lead ore per fathom. It is the most promising looking lode we have ever seen in the mine, and its appearance I feel sure will result in its continuance. Upon sinking 3 ft. more we shall commence driving the 40 fms. level north and south of the shaft. The tribute pitches are without alteration. We shall send away to-day about 11 tons of the usual quality ore.—T. P. THOMAS.

The CHAIRMAN said he had much pleasure in moving that the reports and balance-sheet be received and adopted.—Mr. SOPER seconded the proposition.

The SECRETARY explained that as soon as the shaft had been sunk sufficiently deep to enable them to uninterruptedly prosecute the 40 fms. level, the operations would be more immediately directed to the proving of the lodes in length.

Mr. TIMOTHY wished to know if the company had been legally constituted?

The SECRETARY replied that the company was legally constituted; that the mine had been duly assigned, and that the solicitors of the company (Messrs. Hancock and Sharp) had the deeds, and might also mention that the scrip, having been duly signed by the directors, was ready for delivery.

Mr. TIMOTHY wished to know if the directors had adopted any special Articles of Association?—The SECRETARY replied, that with some slight alterations, the Articles adopted were those under the Act. One of the alterations was to the effect that the general meetings should be held quarterly or half-yearly, as the shareholders might direct. The alterations were so trifling that it was considered unnecessary to have them printed. They were, however, written out, signed, and registered.

The reports and accounts were then unanimously received and adopted.

Mr. TIMOTHY proposed that the general meetings should be held quarterly, when the accounts, brought up to the end of the previous month, should be submitted.

Mr. BERRY said his experience told him that nothing excited greater distrust in the public mind in regard to mining companies than the holding of the general meetings at irregular or long intervals.

The SECRETARY stated the shareholders had power to direct that the general meetings should be held either quarterly or half-yearly.

The motion having been seconded by Mr. WALMSLEY, was carried unanimously.

The CHAIRMAN considered that the resolution just passed was a politic one, for it seemed likely that during the next three months some important result would be gained. At any rate, the mine presented one very encouraging feature—that the indications improved as the depth was increased. From all he had been able to ascertain, it appeared the former workings of the property had limited their operations to near the surface, and had not tested its value in depth. As had been seen by the letter just read, so far as the present company had extended their operations in depth the most satisfactory results had been realised.

The SECRETARY said, if the mine only continued in its present state there was not the least doubt but that the capital would be more than sufficient. The ground was exceedingly easy, and, therefore, could be worked cheaply and expeditiously.

Mr. TIMOTHY proposed the resignation of the directors. He was sure it must be satisfactory to the shareholders to find the affairs of the company had been carried out in an efficient manner. He having had some intercourse with the directors upon the company's affairs, could testify as to their zeal and ability—he referred more especially to their worthy Chairman.

Mr. SOPER seconded the proposition, which was put and carried unanimously.

The CHAIRMAN having acknowledged the compliment on behalf of the board, the proceedings terminated with the usual complimentary votes.

#### CENTRAL AMERICAN MINING COMPANY.

The annual general meeting of shareholders was held at the company's offices, Queen-street-place, on Thursday,

Dr. QUIN in the chair.

Mr. JOHN PHILLIPS (the secretary) read the notice convening the meeting and the minutes of the half-yearly meeting, which were confirmed. The statement of accounts, of which the subjoined is an abstract, was taken as read, and the following report of the directors was submitted. With regard to the accounts, Mr. Phillips explained that the item salaries of directors and auditors should have been *note* to directors and auditors, the remuneration having been received by virtue of a vote of the shareholders, and not in the shape of salaries.

RECEIPTS.

Proceeds of silver sold in England.....£ 7,703 13 0

Ditto of 107 bars in Guatemala.....17,655 5 9

Ditto of 35 bars remitted to England, 21,686 19 ozs. stand. 5,379 13 7 = £30,738 12 4

EXPENDITURE.

Mine and reduction cost.....£21,065 11 8

Expenses in England.....870 8 10 = 21,936 0 6

Leaving balance profit on twelve months' working.....£ 8,802 11 10

The above profit of 8802 lbs. 11s. 10d., added to 71292 lbs. 2s. 2d. the profit in 1861, and 681 lbs. 3d. the profit on silver sold in 1862, together make the total in amount three instalments of first-class capital, with interest and income tax thereon, amounting to 87081 lbs. 18s. 2d., leaving a balance of 72901 lbs. 4s. 10d. of 1862.

On Jan. 28, 1863, the fourth instalment of first-class capital, with interest and income tax thereon, was paid, amounting to 28167 lbs. 13s. 4d. The balance-sheet for the year ending 1862 showed:—

Dr.—Original capital.....£ 9,160 0 0

First-class capital.....20,000 0 0

Profit and loss, as above.....7,299 18 4

Liabilities.....£26,459 16 7 = £35,440 13 5

Cr.—Primary capital.....£25,794 0 7

Assets, comprising cash in England & Atoleque, stores, and consignments of silver.....9,746 12 10 = £38,540 13 5

April 30.—In submitting their annual report to the shareholders, the directors have to state that the hope expressed by them on Nov. 27 last, of being able to present a satisfactory balance-sheet, has been realised. The accounts and balance-sheet for the year 1862 were printed and circulated with the notice convening this annual meeting, and the shareholders are, therefore, in possession of the results of the operations to Dec. 31 last. The expenditure in the year amounted to 21,936 lbs. 0s. 6d., and the returns to 30,738 lbs. 12s. 4d., the profit being 8802 lbs. 11s. 10d. Besides the three instalments of 20001, each paid in liquidation of the first-class capital, and the corresponding interest within the year, another of 10001 has been paid, making the total in liquidation of the capital debt amount to 80001, and the interest 38667 lbs. 13s. 8d., so that there remains to be paid a further sum of 12,0001, and the interest thereupon. The directors are most desirous of paying off this liability as soon as possible, in order to stop the accumulation of interest at 10 per cent., and to place the second-class on an equal footing with the first-class shares. The balance now in the hands of the directors, clear of current liabilities, is about 130001, if, therefore, Dr. Elery should send, as expected, a remittance by an early packet, another payment may be made to the first-class shareholders. Since Sept. 27 last, to which date the report made in November has reference, the mining operations have been prosecuted without any material interruption, excepting that arising from the scarcity of mining labourers. At the time above mentioned the two deep levels of San Juan and San Ricardo were opening out rich ore ground, and the directors have the satisfaction of stating that these levels continued productive at the date of the last letters from Atoleque. In San Juan level about 10 fms. were driven during the five months, yielding from 4 cwt. to 8 cwt. of silver ore per fathom, and in the deeper level of San Ricardo 26 fms. were driven, yielding from 5 to 8 cwt. of rich silver ore per fm. The San Felipe level below only recently reached the cross-course, and has been turned north to intersect the lode on the other side, with the view of continuing it towards and under the rich ore ground in San Ricardo. The levels eastward in this mine have not made any discoveries of importance, although occasional bunches of ore have been met with. For the purposes of ventilating and effectually exploring the eastern ground, a new shaft was commenced in the month of January, and had been sunk 6½ fathoms by the end of February. It has been named Williams' shaft, and is placed at a distance of 117 fms. east of Cornubia shaft. The total quantity of ore raised from San Pantaleon in the year 1862 amounted to 1146 tons 3 cwt.; the raisings in the present year were—in January, 120 tons 4 cwt.; and in February, 103 tons 9 cwt.; and Dr. Elery, in his last letter, remarks—“It is very encouraging to observe in this mine, that whilst the ore ground in the back of San Juan level is diminishing in extent by its being worked away, that in the San Ricardo level below is increasing. The stopes here have improved in productiveness since last month, consequently we may look forward to a good yield of ore from them until the level below shall have been sufficiently advanced to attack the lode at a further depth of 10 fms.” San Alfonso deep adit level was driven about 26½ fms. in the year, and has since been driven a further distance of 6½ fms. Respecting San Antonio Mine, Dr. Elery writes:—“The works here are progressing satisfactorily, and by means of the two operations, the shaft and deep adit, it is confidently hoped to open up valuable and extensive ore ground. The more the mine is worked, the more the ore ground is being discovered, and a considerable quantity of a poor variety, which can only be made remunerative by being subjected to concentration by dressing operations.” Elery's shaft, in this mine, was sunk about 12 fms. in the year, and in January and February last a further depth of 4 fms.,

and has yielded from 5 to 16 cwt. of silver ore of variable quality per fm. San Ramon level is that referred to by Dr. Elery as the deep adit. The vein up to this time has been disordered, but is expected to improve as the level advances into the hill. The ore raised from San Antonio Mine in the year 1862 amounted to 189 tons 14 cwt., and in the two months of the present year 4½ tons have been raised. In Santa Rosalia the only work is that of driving a deep adit to come under the old workings, which are still in advance of the end of the level.—Hacienda de San Jose. The operations at this hacienda have been carried on with regularity. Some recent improvements in the crushing mills have resulted in facilitating very much the processes of grinding and sifting, which are being most satisfactorily effected:—1709½ tons of ore were received at the hacienda in the year, which included about 340 tons of poor ore from former years. The quantity reduced amounted to 1686½ tons, which yielded the silver, some of which was sent to the Mint in Guatemala, and some sold in England, the proceeds appearing in the account now rendered. Up to this time the eight barrels at the hacienda de San Jose have been sufficient to reduce all the ore which the mines have produced; but, as the production may be expected to increase, an enlargement of the reduction power becomes necessary. Orders were given some months since for the ironwork and gearing for four more barrels, and additional grinding mills; and it is hoped that these will be completed in time to send from England early in the autumn. Dr. Elery has recently written fully to the directors upon the subject of the scarcity of skilled miners, and the means of attracting a mining population. The following passage will, they think, be interesting to the shareholders:—

“The protection and exemptions enjoyed in this mining district, the healthfulness of the climate, added to the general facility, except in extreme cases, of procuring the ordinary necessities of life, together with the numerous advantages which all men possess who are employed by the company, are circumstances which are slowly tending to attract to Atoleque a good working population. It is to be regretted the process is so slow, for the increase is disproportioned to the exigencies of our enterprise; comparing, however, the present number of employees—some 300—to that with great difficulty procured in 1854, when 10 or 12 men could scarcely be brought together, the increase, I think, must be looked upon as satisfactory, when the attendant circumstances are taken into consideration.”

It remains only for the directors to congratulate the shareholders upon the steady progress and favourable prospects of the undertaking.

The CHAIRMAN, in moving the adoption of the report, said that it must be satisfactory to the proprietors to find that the liquidation of the first-class shares was being rapidly proceeded with. Since April last, one-half of the first-class capital—in fact, 5001 out of 20,001—had been liquidated, and the payment of the interest and income tax and from the satisfactory and encouraging position of their affairs the remainder would not long remain unliquidated. Under these circumstances, and considering the elaborate and conscientious nature of the report, it would be unnecessary for him to make any further remarks. He would, therefore, conclude by formally moving that the report and accounts presented to them be received and adopted.

This resolution having been unanimously carried, the re-election of Messrs. W. F. Cooke and W. Henderson as directors, and of Messrs. R. Henty and E. J. Bunney as auditors, was proceeded with and agreed to.

Mr. SKINNER thought some notice should fall from their secretary in reference to an item in the accounts, that the meeting had a duty to perform to their directors. They had heard that the remuneration of the directors was dependent upon a vote of the shareholders, and as by the accounts it appeared to him that the amount voted last year was 3001, he would, therefore, move that 3001 be voted to them, and that a vote of thanks be presented to them for the admirable manner in which they had conducted the company's affairs. He hoped that by the date of their next annual meeting their position would be so good that they would be able to fix upon a permanent annual amount.

Mr. HUNTER seconded the proposition, which was carried unanimously.

The sum of 20 guineas was likewise voted to the auditors for their services.

The CHAIRMAN said that although no direct questions had been put to the managers, it would, no doubt, be satisfactory to the shareholders if they would state anything with regard to the appearance of the property.

Mr. JOHN TAYLOR was not aware that there was anything material to add to the information already before them, except that the produce of the mines had been steadily increasing. The mines maintain their richness, and they had the satisfaction of knowing that they were not confined to one mine, but had many resources for mineral.

The saving which would be effected by the course they had adopted at the mines would be felt in the diminution of expenditure, but he might tell them that the progress of the survey works was very good. Although they had had the disadvantage of commencing operations in a country quite new to them, and where there was no experience to guide them, they seemed to have adopted that mode of extracting the silver which was the best that could be carried on.

In the earlier days of their existence there was some difficulty experienced from the scarcity of labour, the property being situated in the midst of high mountains, and far from any town; they were now attracting a population to the locality, and he was glad to say that the labour difficulty was diminishing rather than otherwise, and yet this was while the development of the mines was gradually extending, and they were in hopes that there would be no inconvenience in finding labour as quickly as was necessary to develop such other veins as they might find as well as those upon which they were now working. He believed Mr. Skinner, one of their proprietors, had later advice than they had from the district, and had no doubt that he would give the meeting the advantage of his information.

Mr. SKINNER said the information he had was simply a short reference to the property in a letter which he had received from his partner in Guatemala, who stated that Atoleque was going on favourably. They had not been interfered with by the recent disturbances on the frontier. They were expecting another conduct of silver at Guatemala, and as by the ordinary route it would have to pass through a district in which they might meet with troops in movement, he had recommended Dr. Elery to send it by way of Zacapa.

Mr. JOHN TAYLOR thought it would be satisfactory to the meeting if Mr. Skinner would favour them with his opinion as to the war that was going on in the district—how long it was likely to last, and so on.

Mr. SKINNER was scarcely in a position to give an opinion upon the subject, but from what he learned from his partner it would not probably be of very long duration, for he used a very expressive Spanish term—*no hay dinero* (there is no money), and they all very well knew that it was the very difficulty to carry on under such circumstances.

The only difficulty, so far as the Central American Company was concerned, was in bringing the silver to Guatemala, and even this would, he believed, be removed by the change of route suggested.

The CHAIRMAN then acknowledged the vote of remuneration and thanks on behalf of himself and co-directors; and on the proposition of Mr. HUNTER, thanks were voted to the managers for the great attention they had given to the company's affairs, as shown by the results which had been obtained.

Mr. RICHARD TAYLOR said that his brother had deputed to him the task of returning thanks to the shareholders for the compliment they had paid them. He could assure them that nothing could be more gratifying to them than to find that the plan they had laid out had been successful. The company they had at Atoleque differed from anything they had before adopted. There was no difficulty, so far as the mining operations went, but there was considerable difficulty in bringing to the spot machinery and other things necessary for carrying on the works. The first thing they did was to have an engine carefully constructed, so that every portion of it could be conveniently carried on mules' backs, and they were quite successful in getting it fixed; but beyond this they had tried the effect of sending out the machinery in the shape of pigs of iron. The amalgamating machinery had all been made on the spot, and they were assured that nothing could be more successful than that plan, and they hoped to be able by it to keep pace with the development of the mine in furnishing the machinery.

A vote of thanks to the Chairman terminated the proceedings.

#### WHEEL ELLEN (SOUTH AUSTRALIA) MINING COMPANY.

The annual general meeting of proprietors was held at the company's offices, Threadneedle-street, on Wednesday,

Mr. W. FERGUSON in the chair.

Mr. J. BROWN (the secretary) read the notice convening the meeting.

The directors' report stated that at the last meeting it was admitted that the capital of the company was insufficient for the coming expenditure, and it was resolved to issue preference shares; the result was, however, from circumstances known to the shareholders, such that the directors abstain from doing so, and returned the small deposits received. In the meantime, the colonial committee have exerted themselves to supply the requisite steam-engine and machinery; they also relied on further capital being forwarded, and in the strong conviction of the value of the property made themselves personally responsible to one of the banks in Adelaide, according to the last advice, to about 40551. Pressed by the responsibility of this debt in the colony, and anxious to avail themselves of some means of developing the property without a further appeal to shareholders for capital, the directors cordially entered on a negotiation which was opened by the general's important mineral estates adjoining that belonging to this company, for a debenture of 10001, with the understanding that the sufficient fund would be supplied from independent sources to liquidate the liabilities of the company, and to carry out fully the requisite mining operations. Every effort has been made by your board, and much time allowed to ripen this negotiation. The directors regret, however, to state that the proposals submitted have been very recently withdrawn, under an impression that the intended amalgamation could not be realised within a period consistent with the expectations of the shareholders. It thus becomes unnecessary to introduce here the details of an arrangement which would otherwise have been submitted for their consideration and approval. These circumstances fully accounted for the small progress made during the year. Operations of a limited nature have, however, been kept going through the efforts of the colonial committee, and the steady return of silver-lead and copper ore are very encouraging, as evidence of the true merits of the property under most disadvantageous conditions. Shipments of silver-lead and copper regulus to the value of 24001, have been made during the year embraced in the accounts herewith furnished, and further shipments have since been advised, having an estimated value of 9851. Operations on silver-lead ore of a very low produce are now being carried on at a profit.

The CHAIRMAN, in moving the adoption of the report and accounts (which had been forwarded to each shareholder), said that the directors had still the same faith in their property as expressed at their last meeting. The unfortunate flooding of the levels, through the water being allowed to accumulate, had prevented the large reserves of ore being made available; these reserves were still under water. At the last meeting it was proposed to issue preference shares, but this proposition was interrupted by the prospect of litigation; he (the Chairman) was happy to say that the dispute in question was settled, and the company were in entire and undisputed possession of the property. The works at the mines during the year had necessarily been principally on the copper lodes, while the sinking of the shafts was being carried on, the appearances warranting the outlay. Traces of cobalt were found in the copper, although not to value, yet of such a character as to warrant the opinion that on a further development it would be found to add to the value of the lode. To enable them to fully develop the property, it was necessary, and the directors proposed that they should borrow the sum of 15,0001, repayable at the end of five years, by the issue of 600 debentures of 251, each such debenture to bear interest at the rate of 10 per cent., in preference and priority to any dividend of interest or dividend amongst the ordinary shareholders; the debenture debt to be a first charge on the freehold property of the company in the colony. These debentures it was proposed to offer, in the first instance, to shareholders in this country, and any party applying for shareholders in the colony being open to the same privilege; no debentures, however, to be issued unless 15,0001, worth be applied for. The vendors of the property have placed in the directors' hands 600 fully paid shares in the company, one of these shares to be given with each debenture issued, the amount of each debenture to be payable by instalment—21 10s. on application, 21 10s. on allotment, 101, on Oct. 1, and 101, on Dec. 1, 1863. He (the Chairman) was glad to say that the original reports of the property were fully borne out by the last advice, as also by the opinions of several parties recently arrived from the colony. He (the Chairman) concluded by stating that the directors were very desirous to have an addition to their number, and hoped that two or three gentlemen would be nominated. It would be well if one or more of these were gentlemen who knew the colony, and possessed the confidence of the shareholders there. The board were prepared to call a meeting for election of directors in accordance with the articles of the company.

Mr. D. HARROLD stated that, having recently returned from the colony, he could endorse the opinion of the directors as to the value of their property. He could not, however,

but consider that their present position arose from mismanagement at the mines. The agent, from some cause or another, had allowed the water to accumulate, and the rich levels were filled with water. They certainly had the engine, &c., on the mine, but from the want of capital they were unable to erect them. There was no doubt that a great mistake had been committed, but he believed that the statements made in the original prospectus would be found correct.

The CHAIRMAN, in reply to remarks of Mr. Dumas and Mr. Sewell, calling in question statements in the original prospectus as to reserves of ore, said that if those gentlemen had been present at the last annual meeting their remarks of to-day would not have been made. Never had greater care been exercised than the directors had used in testing the prospectus prior to the completion of the purchase. The purchase had been made subject to an independent survey, and in a circular issued in May, 1861, the shareholders were informed that “the directors had caused minute and independent surveys to be made of the mine and properties proposed to be purchased, and the result of this inspection was satisfactory to the agent appointed by the directors, Mr. Abraham Scott, of Adelaide.” No one could call in question Mr. Scott's character, and in the very latest despatch from the colony these reserves are stated to be still intact.

Mr. D. HARROLD said that the best answer to Mr. Dumas was, that numerous gentlemen on the spot took shares, and several of them after personal inspection of the mine, with the prospectus in their hands. A friend of his recently returned, and who had visited the mine just before leaving, had remarked to him that it could be worked to pay dividends in six months. He (Mr. Harrold) gave similar testimony from personal knowledge of the property.

Mr. DUMAS, remarking that the sense of the meeting was evidently against him, at the request of Mr. Sewell, the second, begged to withdraw an amendment he had proposed, and the report and accounts were then passed.

In reply to various remarks reflecting on the management in the colony.

Mr. PRINCE (a director) wished, in justice to the colonial committee, to call attention to, and confirm, Mr. D. Harrold's statement, that the present position of the company was mainly due to the single unfortunate act of cutting water in the absence of appliances for keeping it under. The consequences of this they had, of course, not anticipated, and he considered that the company were indebted to the colonial committee for the efforts they had made under circumstances of much difficulty.

Mr. D. HARROLD signified assent to the remarks of Mr. Prince. He would expect the mine to pay off the debentures in two years under proper management.

The CHAIRMAN intimated that five or six gentlemen had signified their intention to take debentures to the amount of 20001, or 25001.

In reply to a shareholder, the CHAIRMAN stated that a portion of the deeds had been sent out to the colony for registration, and were at the present time in the banker's hands there.

After a lengthy discussion, it was resolved that the proposal of the directors to issue debenture bonds be approved of.

The retiring directors, Messrs. W. Ferguson and J. W. Cropper, were re-elected. Mr. J. H. Koch was elected auditor. A vote of thanks to the Chairman and directors terminated the proceedings.

#### BEARIZ TIN STREAMING COMPANY.

The annual general meeting of shareholders was held at the company's offices, 17A, Sise-lane, on Wednesday.—Mr. JOHN WALKER in the chair.

Mr. ALEXANDER STRACHAN (the secretary) having read the notice convening the meeting, the report of the directors, of which the subjoined is an extract, was taken as read:—

The operations at the group of pertenencias called San Miguel have been continued; they consisted in the erection of buildings which were absolutely necessary for commencing and carrying on the works; in forming a deep adit, through which it was intended the water and refuse clay should pass away after streaming; in constructing a tramway at a higher level, by which to carry off the overburden or surface crust lying above the kaolin; and in removing a large extent of such overburden, making a corresponding extent of kaolin ready for the process of streaming, or removing. Besides the main workings, various sinkings, cuttings, drivings, and trials, of a preparatory character, have been made, and the kaolin, to test the kaolin, were made in San Miguel and other parts of the property. Last to bring in the water from a distance for streaming over the kaolin was marked out and commenced. A limited quantity of ore was obtained during the progress of these operations, though that, of course, was not the direct object with which they were prosecuted, and venturers were encouraged to work and obtain ore at localities specially pointed out to them for the purpose, and were paid such a remuneration as left a profit on the produce of their labour to the company. Four additional pertenencias, the acquisition of which was desirable, from their position and the quality of the kaolin existing in them, were applied for and secured to the company. Mr. Glinther's temporary engagements having expired, Captain John Bray, of Cornwall, was appointed in his stead. Captain Bray, having been at the mines for some time, expressed a decided opinion that the idea of streaming the clay should not be carried out, but that the process of stamping and washing the whole clay produced at the mines should be substituted therefor, employing for that purpose the most approved modern stamping and washing machinery—Borlase's patent buddies, &c. This recommendation he based upon the fact admitted by Mr. Glinther, that the clay in bulk had proved harder than had been at first anticipated, that large masses of it must be stamped, and that in many parts where the overburden was too deep to be removed levels would have to be driven in under it to get at and extract the kaolin, which could as easily be removed to a stamp as to a washing stream. This change in the proposed mode of operations would, he stated, cause some delay, and an immediate outlay in plant and machinery, but would not add materially to the expense of working the mines, while it would render a profitable result more certain. The directors believing the views of Captain Bray to be correct, sent out towards the end of last year a considerable quantity of iron for the railways, timber for sleepers and other purposes, a wagon for conveying timber and other materials, mining implements, tools, and other appliances, twelve iron tramways, a water-wheel 30-ft. in diameter, and 24 heads of stamps. The railways are now completed, a large extent of kaolin is uncovered ready for removal, two large reservoirs have been formed, leats for bringing the water from the river to the reservoirs, and from them to the wheel and stamps completed, the pit for the water-wheel has been made, and the wheel is fixed in its place, and it is expected that half of the stamps will be at work by the end of the present month, and the remainder very soon afterwards. The necessary floors on which to dress the ore are in a state of great forwardness, and two of Borlase's patent buddies have been procured, and it is hoped will reach the mines as soon as Capt. Bray may be in a position to use them. The manager's house, miners' houses, carpenter's and smith's shops, and a store-house have been erected—all in a suitable, simple, and economical manner. The directors have every reason to believe that the property, both as regards the extent of the kaolin existing in it and its yield of ore, as well as the degree of richness of that ore, is what it has from the first been represented to be, although the mode of working it contemplated is somewhat different from that which was originally proposed. Captain Bray repeats the opinion that the kaolin, in a practical sense, is inexhaustible, that its average yield at San Miguel is at least seven pounds of ore per ton of clay, and that the ore will yield fully 60 per cent. of pure tin. He has found also that its depth is very great, and that, so far as he has yet proved it, the deeper the kaolin the better its yield of ore. Capt. Bray estimates that with the best to be found already sent out he will be able to treat 2800 tons of kaolin per month, and will be able to send to market over 100 tons of ore, or over 6000 lbs. of pure tin per annum. Up to March 31 there had been placed in the store-house about 14 tons of ore, obtained partly by the labour of venturers, and partly and incidentally by the preparatory workings of the company. A portion of this ore has been converted into tin at the smelting-works which the company acquired along with the property, and the only part of it that has been sold realised at the mines at the rate of 1401. per ton. Capt. Bray had received the offer of 1371 10s. for the remainder, but had declined it, thus confirming the statement that the price of tin is higher in Spain than in England. The value of the ore extracted up to March was 9001, which will be sold and brought into next account. The directors have declined to accept remuneration for the first year, ending May 13, 1863; and it is not their intention to take payment of any remuneration until the shareholders receive a dividend.

The CHAIRMAN regretted to say that he was not in a position to propose to declare a dividend, though he thought that in a short time they would be enabled to do so. Capt. Bray, their present manager, shortly after his arrival at the mines, in June last, sent the directors a report most fully confirming all that had been previously stated to them as to the very great extent and value of their mines. All his subsequent reports have confirmed these views. Capt. Bray considered the kaolin to be practically inexhaustible; its yield of ore, and the percentage of tin in the ore, fully equal to what had been stated in the prospectus. He finds the kaolin at San Miguel to yield on the average fully 7 lbs. of ore per ton of kaolin, and the ore to yield fully 60 per cent. of pure tin. In some of the pertenencias he finds the average yield to be considerably more than 7 lbs. of ore to the ton of kaolin. Some delay in getting ore extracted and smelted, and tin to market, had been caused, as was stated in the report, owing to a change in the proposed mode of carrying on their operations having been found desirable. The original idea was that the ore from about two-thirds of the kaolin could have been extracted by the streaming process and washing, putting aside the remainder of harder stuff to be stamped as desirable or convenient. It was intended, in fact, that the produce to be got out by streaming should provide funds to erect stamps and all machinery that was to be found on the property. But Capt. Bray reported that the remunerative nature of streaming operations would be questionable, because the overburden lying above the kaolin, in some places, was thick. A large proportion of the kaolin was hard or tough, and in some localities the fall for the run of water was not as steep as would be desirable for streaming. He (the Chairman) thought he might say that the supposed proportion of soft and hard stuff might be reversed, and that it would be more correct to say that one-third of it only was soft enough to be effectively streamed, or treated, by washing alone, and that two-thirds would require stamping or crushing before the ore could be extracted by the application of water. Captain Bray advised that all the kaolin should be stamped and washed. This, therefore, was the reason for changing the mode of working, and had necessitated the expenditure of money to purchase machinery, which they did not at one time expect to have to provide for as so early a stage in their operations. Capt. Bray considered that the proper plan to pursue was to erect light stamps (for heavy stamps were not requisite) in eligible places, so as a first process to crush and wash, simultaneously, the whole of the kaolin. He reckoned that the set of stamps already at the mines would crush 2800 tons of kaolin per calendar month, and that the operation would be easily and effectively performed. That the working of the mines in that way would be adequately profitable Capt. Bray entertained no doubt whatever; he had no doubt as to the value of the property, and he (the Chairman) had no hesitation in saying that Capt. Bray was a practical man, and that he had a high opinion of him as possessing necessary qualifications to fit him to discharge the duties of manager. Captain Bray considered that the mode of working now proposed was the quickest, most economical, and profitable that could be adopted. A delay, in extracting ore, of some months was necessarily caused, as estimates had to be procured, the machinery ordered, delivered and shipped, and afterwards erected. But, in the meantime, operations of a preparatory nature were going on, so that no delay in proceedings extract ore should take place after the wheel and stamps arrived. The adit had been widened; it had, in fact, made into a railway tunnel, instead of a simple outlet for water. The railway, at a higher level, along which to convey the kaolin from its bed, had also been made of a more permanent character. The number of hands at present employed is 104. He (the Chairman) thought they would see, from the statements of Capt. Bray, that they had no reason whatever to doubt the value of the mines. The directors had but little further knowledge than the shareholders generally now possessed, but they certainly did believe that they would be well repaid for their outlay. They did not wish to spend



**CORNUBIA TIN.**—John Symons, April 26: The ground at flat-rod shaft is a little better for sinking, and there is the appearance of further improvement. To-day, in tak-

**RAILWAY CALLS.**—The amount falling due in May is 294,954*l.*, making 8,510,067*l.* called for during the first five months of 1863.







north at the 110, to four men, at 10¢. per fm. : we have about 3¼ fms. more to drive to get under the good lode gone below the 100. The 100 went, to four men, at 7¢. per fm. ; lode 15 in. wide, and worth 2 tons of good ore per fathom. The rise above the 100 west,



**METAL MARKET**—LONDON, May 1, 1963.

cognised acquaintance of the board with financial operations. This undertaking will supply what has hitherto been a singular deficiency in

**MINE ACCIDENT.**—At the North Roskear, John Hodge had his hands much injured by the fall upon them of a rock of ore, blown from a slope above.



monetary affairs as far the banks of Scotland are concerned, and as exceptions to the system so long and so conveniently in use by English banks. The latter send cash for immediate payment to order, in London, so that the recipient has only to sign a cheque and count the money; but a banker in Scotland only gives you in exchange for cash a bill upon his London agent at twenty-one days' date, which you have then to expend a certain amount of time and discount upon before you can get the proceeds. Again, the costs of discounts in Scotland generally exceed those in London, whilst the allowance upon deposits is less. Under these circumstances this new bank is well supported in the market. The shares are at a steady premium, and it is not expected that any applications will be received after, if so late as, May 9.

At Redruth Ticketing, on Thursday, 2950 tons of ore were sold, realising 15,044. 15s. 6d. The particulars of sale were:—Average standard, 113. 2s.; average produce, 64; average price per ton, 4. 15s.; quantity of fine copper, 196 tons. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Ore copper.
April 28.	2271	113 0	64	4 15 0	175 10 0
April 29.	1875	113 0	64	4 15 0	74 17 0
" 30.	4930	113 0	64	4 15 0	72 12 0
" 31.	2950	113 0	64	4 15 0	71 14 0

Compared with last week's sale, the decline has been in the standard 1. 5s., and in the price per ton of ore about 2s. Compared with the corresponding sale of last month the decline has been in the standard 2. 15s., and in the price per ton of ore about 3s. 6d.

At the Swansea Ticketing, on Tuesday, 1567 tons of ore were sold, realising 15,331. 8s. 6d. The particulars of the sale were:—Average standard, 96. 18s. 6d.; average produce, 12 7-16; average price per ton, 9. 15s. 6d.; quantity of fine copper, 194 tons 18 cwt. The following are the particulars of the sales during the past month:—

Date.	Tons.	Standard.	Produce.	Price per ton.	Ore copper.
April 14.	2201	96 18 6	12 7-16	9 15 6	120 12 6
" 28.	1567	96 18 6	12 7-16	9 15 6	78 16 0

Compared with the last sale, the decline has been:—In the standard, 1. 15s., and in the price per ton of ore about 4s. 6d. Of the 1567 tons sold on Tuesday, 753 tons were British ores, which gave an average produce of 10 1/2, and sold at an average standard of 99. 16s.—8. 5s. 6d. per ton of ore; the remaining 814 tons were foreign ores, which gave an average produce of 14 1/2, and sold at an average standard of 95. 0s. 6d.—11. 3s. 6d. per ton of ore. On May 12 there will be offered for sale 2682 tons of ore, from Cobro, Knockmahon, &c.

The following dividends have been declared during April:—

Mines.	Per Share.	Amount.
East Caradon	0 17 6	£5376 0 0
Tincroft	0 10 0	3000 0 0
Dolcoath	8 0 0	2864 0 0
West Wheal Seton	0 5 0	2000 0 0
Wheal Seton	3 0 0	1188 0 0
Wheal Bassett and Grylls	0 1 0	1000 0 0
Marke Valley	0 2 0	900 0 0
Polleroo	0 10 0	886 0 0
East Pool	0 0 0	640 0 0
Wheal Ladock and Wrey	0 2 0	600 0 0
Brodford	0 2 0	500 0 0
North Trekerby	0 1 6	445 4 0
Cwm Erfin	0 10 0	438 10 0
Total.		£19,832 14 0

At the East Pool Mine meeting, on Monday, the accounts for Feb. and March showed a credit balance of £211. 8s. 2d. A dividend of 640l. (5s. per share) was declared, carrying over 1811. 8s. 2d. The profit on the two months' working was 661. 19s. The copper ore sold amounted to 2099. 7s. 8d.; tin, 1220. 6s. 4d.; and wolfram, 621. 2s. 6d.

At the Tincroft Mine meeting, on Thursday (Capt. Teague in the chair), the accounts for Jan. and Feb. showed a profit of 2291l. A dividend of 5s. per share was declared; and as soon as the reserve fund has been received from the late directors a bonus of 10s. per share will be paid. Details will appear in next week's Journal.

At the Bronfloyd United Mines quarterly meeting, on Monday, at the offices of the company, Moorgate-street (Mr. Thomas Miers in the chair), the balance-sheet, exhibiting cash and ore bills in hand amounting to 1214. 6s. 2d., was adopted, and a dividend of 500l. declared (2s. per share), the balance of 714. 6s. 2d. being carried forward for next quarter. The report of Capt. Lester was deemed highly satisfactory: the 40 continued to yield about 25 cwt. of lead per ton, and he gave it as his belief that the levels below would be found to be still more productive, as the lead is much more solid at the bottom of the levels than above. The sinking of the main shaft was resumed on March 2, under a contract to nine men, to put it down 12 fathoms, in one bargain, including all costs, at 16. 10s. per fm.; it is already down 9 fms. 1 ft. The shaft is being sunk on the southern portion of No. 4 lode, yielding occasionally good stones of ore. During the past three months 100 tons of lead ore was sold, and the agent concluded his report by expressing his belief that the same quantity will be returned, in two samplings, by June 30.

At the Clara United Mines meeting, on Monday, the balance-sheet, of which we gave an abstract last week, was adopted, and a call of 2s. 6d. per share made, payable at the North and South Wales Bank, Aberystwith, on May 8. The recent valuable discoveries which this company has made at one of its mines (Llywernog) was the cause of much congratulation.

At the Pendene Consols Mine meeting, on Tuesday (Mr. W. Bawden in the chair), the accounts for February and March showed a profit of 751. 7s. 11d. The balance in favour of the mine was 1287. 6s. 8d. Details in another column.

At the Rhaffa Lead Mining Company monthly meeting, on Wednesday, the accounts showed—Available balance at the previous meeting, 685. 1s. 9d.; less cost-sheet for the month, 73. 6s. 1d.; leaving credit balance, 611. 15s. 8d. The reports read were highly satisfactory. Since the last meeting the mine had been visited and inspected throughout by three of the largest shareholders and directors. The works have progressed in the C, D, and E levels, especially in the C, or central level, where the lode is described as "a beautiful well-defined lode, producing fine rocks of ore, and still improving as it gets into the hill ground west." The No. 2 lode, on the south side of the hill, had also been explored by clearing an old level, where fine stones of ore were found, with strong indications of a good lode when further opened on. In level D the operations are not so far advanced; but there is every confidence of soon getting into the course of ore that has been proved in sinking the winze below level C. A shaft is being sunk in level B, which will soon cut upon the run of ore already proved in the winze below level A. On the opposite side of the mountain both the north and south lodes are clearly defined. Their position and the favourable nature of the ground justify the belief that very important results will follow the extension of the works in that direction, when the present operations have been further advanced. The directors expressed their satisfaction with the manner in which the works have been laid out.

At Illogan Mine meeting, on Thursday (Mr. T. C. Munday in the chair), a statement of accounts was rendered by Capt. Teague, which showed a credit balance of 31. 19s. 11d. Capt. W. Teague was appointed captain and purser, at a salary for the present of 100 guineas per month, and it was resolved that as the business of the company will be transacted on the mine, the London office was not required. The committee having resigned, Messrs. T. C. Munday, Edward Cooke, and Peter Watson were requested to act as committee until the next meeting, and authorised and required to obtain from Mr. Goutley all books, papers, and writings relating to the mine, and from the bankers of the company the account of the assets in their hands. Messrs. Bolithu were appointed the bankers. Capt. S. Martin was appointed underground agent, at a salary of 7 guineas per month. Messrs. Mitchell and Jenkin were appointed the engineers, at a salary of 1 guinea per month. Messrs. Vincent, Peamewar, Hitchens, and Read were appointed surgeons. Details will appear in next week's Journal.

At East Jane Mine quarterly meeting, held at the offices, Cannon-street, on Thursday, the accounts showed a balance in hand of 991. 9s. 2d., and a balance of liabilities of 468. 5s. 3d. A call of 3s. 6d. per share was made. The report from the agents of the state and prospects of the mine is very encouraging.

At Trencrom Mine meeting, on April 16, the accounts showed a debit balance of 549. 7s. 4d. Capt. Bignards, Holloway, and Bennett reported that in the 60, driven south on the cross-course, the men are stripping down the side of the level 30 fathoms south of the engine lode, for the purpose of finding the engine-pool lode, and provided it is cut productive for mineral, the lode could be seen at other points with very little outlay. In the cost-sheet presented 200l. is charged for land destroyed and new sett, but the general prospects of the mine are more cheering than they have before seen them, and in future they hope to do better in the returns, or they would have recommended dividing the cost. The mine is well found in steam-pumping power and winding and stamping machinery, and they see no prospect for several months of increased expenditure, although they hope to make greater returns of tin.

At the New Hendra Mine meeting, on April 22, the accounts showed a debit balance of 111. 10s. A call of 5s. per share was made.

At St. Ives Wheal Allen meeting, on April 23, the accounts showed a debit balance of 314. 17s. 11d., to pay which a call of 6s. 1d. per share was made. The office reference in London was abolished; and a report is to be sent fortnightly to the Journal. Capt. T. Richards and H. Taylor reported on the mine.

The directors of the Carmaux Mines Company have notified that the dividend for the year 1862 has been fixed at 18 frs. per share.

At the Bearis Tin Streaming Company meeting, on Wednesday (Mr. John Walker in the chair), the report of the directors was unanimously adopted, and the retiring officers re-elected. Details will be found in another column.

At Wheal Ellen (South Australia) annual meeting, on Wednesday (Mr. W. Ferguson in the chair), the directors proposed to raise further capital by the issue of 600 debenture bonds of 25l. each, which proposition was agreed to. Full details in another column.

At the Central American Mining Company meeting, on Thursday (Dr. Quin in the chair), the accounts showed a profit on the twelve months' working of 8202. 11s. 10d. The position of the property was considered to be highly satisfactory. Details of the proceedings will be found in another column.

At the Cape of Good Hope Telegraph Company meeting, on Wednesday (Mr. J. A. Radcliffe in the chair), the accounts showed a credit balance of 1217. 15s. 2d. Owing to detention from bad weather and other causes, Mr. Wollaston had been unable to send as full a report as was anticipated; but a letter from that gentleman, dated the 25th of March last, was read, from which it appeared that the contractor was making very satisfactory progress, and that the materials supplied by him were of excellent quality. The Chairman then adverted to the proposed extension of the telegraph from King William's Town to the colony of Natal, and stated that matters had so far pro-

gressed that it was probable some definite proposition would be submitted to the Board in the course of a month, and, in the event of an arrangement being come to, a special meeting of the shareholders would be convened to consider the same. In reply to Mr. Norton, the Chairman stated that it would be very difficult to replace Mr. Wollaston, as, in addition to his professional acquirements as a telegraphic engineer and his knowledge of the colony, Mr. Wollaston enjoyed both the confidence of the shareholders in England and the authorities at the Cape. Still, the board had provided for the contingency of his death or resignation, and a policy of insurance had been effected upon Mr. Wollaston's life, which he had deposited with the company, and which would cover any such outlay.

LEADS, APRIL 30.—In Mining Shares a fair amount of business has been transacted, at slightly advanced rates, principally in Yorkshire mines, some of which are producing ore in considerable quantities, with indications of further improvement, which to all appearance is likely to result in good dividends to the shareholders. When realised this will give a healthy tone, and add to the value of the Yorkshire lead mining interest.

NORTH JAMES TIN AND LEAD MINING COMPANY (TREGO, CORNWALL).—The rich silver gosean lately discovered in the 17 has very much increased in quantity since Captain Tonkins's (of Dolcoath) report was published, which estimated the gosean at 4 tons per fathom. The last lot was sold for 4. 10s. 6d. per ton; the work for driving and dressing being let for 31. per fathom. When inspected by Capt. Tonkins the gosean was 6 ft. wide; it has since increased to 9 or 10 ft., no vein check being discovered, and the gosean still going forward; the produce from this lode alone is likely in a very short time to add very materially to the value of the mine.—JOHN GLEDHILL AND CO.

COAL MARKET.—On Monday, the arrival of 65 fresh ships, with the cargoes remaining from Friday, made a large quantity of house coal for sale; the fine weather caused much depression in the market, and very little business was transacted at last prices. Hartley's and manufacturers' were in fair request at previous value. Best house coal, 16s. 6d. to 17s. 6d.; seconds, 13s. 6d. to 15s.; Hartley's, 14s. to 15s.; manufacturers', 12s. to 14s.—On Wednesday, there were 37 arrivals. The colder weather, and a reduction of 6d. per ton in the price of first-class coal, produced much more demand for house coals generally. Hartley's and manufacturers' were both dull at last quotations. Best house coal, 16s. to 17s.; seconds, 13s. 6d. to 15s.; Hartley's, 14s. to 15s.; manufacturers', 12s. to 14s. per ton.—On Friday, 41 arrivals. There was a fair amount of business done in house coal, at fully last prices. Hartley's 3d. per ton lower; manufacturers' without alteration. Hetton Wallsend, 17s.; Braddyll's Hetton Wallsend, 15s. 3d.; Lambton Wallsend, 16s. 6d.; Eden Main, 14s. 6d.; Gosforth Wallsend, 13s. 9d.; Hasting's Hartley, 14s. 9d.; Bute's Tanfield Moor, 12s.; Tanfield Moor, 12s.: 37 cargoes unsold; 5 ships at sea.

ACCEPTANCE OF SHARES.—In re the Bitumenised Pipe Company (Limited), in the Court of Bankruptcy, the question was what amounted to an acceptance of shares within the meaning of the 20th Vic. c. 47. Mr. Commissioner Holroyd held that in order to fix an allottee as a contributor it was necessary to show an acceptance in writing, or, in the absence of that document, something done on his part in pursuance of such acceptance, from which the existence of that document might be presumed.

PRINCIPAL AND AGENT.—The question in the appeal case of Hawley v. Seneca, in the Common Pleas, was whether a payment made by an agent for his principal had been ratified by the principal. The agent, employed by the principal to buy for him certain goods (sugar), to be paid for at a future date, paid for them out of his own money, for the purpose of obtaining the discount allowed by the seller. The principal, with the knowledge of these facts, directed the agent to clear the goods at the Custom House, which, in the ordinary course of business, would be done after payment of the price by the agent for his principal. The Court held that this was a ratification or adoption of the previous payment of the price, and that the agent might sue the principal for the price as money paid to his use at his request.

GEOLOGICAL SOCIETY OF LONDON.—April 22: Sir P. de M. G. Egerton, Bart., Vice-President, in the chair. Nicholas Kendall, M.P., Member of the Royal Commission of Mines, Pelyn, Cornwall; Major F. R. Rickard, Inspector-General of Mines in the Argentine Republic, Hanover-square, W.; and Charles Easton Spooner, Bro-y-Garth, Port Madoe, North Wales, were elected Fellows. M. A. Favre, Professor of Geology in the Academy of Geneva; Franz Ritter von Hauser, K. K. Bergrath, and of the Imperial Geological Institute of Vienna; M. Hebert, Professor of Geology to the Faculty of Sciences at Paris; E. Beyrich, Professor of Geology in the University of Berlin; and Dr. F. Sandberger, Professor of Mineralogy at Karlsruhe, were elected Foreign Correspondents. The following communications were read:—  
"On the Gneiss and other Azoic Rocks, and on the superjacent Palaeozoic Formations of Bavaria and Bohemia," by Sir R. I. Murchison, F.R.S.; and "Notice of a Section at Mocktree," by R. Lightbody, communicated by J. W. Salter, F.G.S.  
On Wednesday the following papers will be read:—1. "On the Brick-pit at Lenden, near Colchester," by the Rev. Osmond Fisher, M.A., F.G.S.; with a Note on the Colchester, by T. V. Wollaston, F.L.S.; 2. "On the original nature and subsequent alteration of 'Mieschicht,'" by H. C. Sorby, F.R.S., F.G.S.; 3. "On the Fossil Corals of the West Indies."—Part I, by P. Martin Duncan, M.D., F.G.S.

LONDON ASSOCIATION OF FOREMEN ENGINEERS.—At the ordinary monthly meeting of the above society, to be held this (Saturday) evening, Mr. Joseph Newton will read a paper on "Machine Propulsion." The chair will be taken at eight o'clock, at the Assembly Room of the Association, 35, St. Swinburn-lane, City.

MANCHESTER GEOLOGICAL SOCIETY.—The monthly meeting of members was held on Tuesday in the Museum, Peter-street; the President (Mr. Joseph Atkinson) in the chair.—Mr. G. Willard read a paper "On the Fulledge Section of the Burnley Coal Field." At the close of the reading, the President thanked Mr. Willard for his description of the quality and character of the coal found in the Fulledge Colliery, and said this description was the more valuable because the colliery had been closed. Should it be opened at any future day, the observations of Mr. Willard would be extremely valuable; and if plans could be preserved either in the Geological Institution, at Manchester, or at some institution at Burnley, they also would be of great value to any future worker of the mine or an adjoining mine. He regretted that in cases like the present plans were not often preserved for future emergency.—Mr. Willard replied that he should have great pleasure in furnishing the society with plans, in case no objection was urged by the owners of the pit.—In reply to Mr. A. Knowles, Mr. Willard said that to a depth of 127 yards the fossils were vegetable, below that depth there were shells and fishes.—In reply to Mr. J. Atkinson, Mr. Willard said that there was no marked difference in the quality of the coal where the vegetable fossils predominated, as compared with the seams where he found fishes and shells.—The President observed that the fossils of fishes alluded to in the paper as having been found in the Fulledge Colliery were exceedingly perfect; not mere plates, fins, and bones, but in many instances there were perfect fishes.—Mr. J. Atkinson read a paper by Mr. H. Bramall, "On Sinking through Drift Deposits." The paper was an explanation of the methods commonly in use in sinking through drift deposits and quicksands, pointing out the peculiarities of each, and explaining the advantage of cast-iron tubing.—Mr. Goodwin admitted the general principles advocated by Mr. Bramall, but suggested several alterations in detail.—A vote of thanks to the President terminated the proceedings.

ASSOCIATION FOR THE PREVENTION OF STEAM-BOILER EXPLOSIONS.—At the last meeting of the executive committee, on Tuesday (Mr. Jas. Petrie in the chair), Mr. Fletcher, engineer, presented his monthly report, in which reference was made to an explosion which occurred last year, the particulars of which had been obtained through the kindness of an engineer who investigated the explosion immediately after it happened. The boiler was of plain Cornish construction, and the explosion resulted from collapse of the internal flue tube. Three explosions had occurred during the past month to boilers not under the inspection of the association. In two of these accidents there were no fatal consequences; the boilers were plain cylindrical, and externally fired; but in the third case nine persons were killed and four injured. The accident occurred at an ironworks, and five boilers working side by side exploded simultaneously. The shell of each of them was rent asunder, and they were blown to a perfect wreck. Four of the boilers were cylindrical, egg-ended, externally fired, and the fifth was an ordinary single-flue, or "Cornish," internally fired. In accounting for the explosion, the engineer attributed it to the weakness of the transverse seams over the furnace—to which all externally-fired boilers are found to be liable—aggravated by the use of sedimentary water, and the mode of introducing it, by which it was injected directly upon the plates at the bottom of the boiler, and immediately over the fire. The cause of the simultaneous explosion was thought to have been as follows:—A single externally-fired egg-ended boiler (say, No. 3) rent at one of the transverse seams over the furnace in the first instance. The escape of steam and water from the bottom of the boiler then lifted the remaining ones, and threw them several feet high, blowing down at the same time the brickwork setting, so that the boilers, on coming again to the ground, fell upon a loose irregular bed, and all became so strained that each rent and exploded in turn. That the percussive action of the steam was sufficient to have done this was illustrated by the fact that one of the cast-iron rolls from the mill was lifted to a height of several feet. Since the occurrence the proprietor of the ironworks had resolved upon having no more of the externally-fired class upon his works, but "Lancashire" boilers. It was reported that in another case a member of the association, finding externally-fired boilers crack at the seams, had temporarily lashed the two ends together with longitudinal stays.

NEW THEORY OF THE GENERATION OF STEAM.—At a recent meeting of the Liverpool Literary and Philosophical Society, Mr. E. J. Reed read a paper upon the New Theory of the Generation of Steam, discovered by our old and esteemed correspondent, Mr. Charles Wye Williams, and demonstrated in Mr. Williams's last work "On Heat in its relation to Water and Steam" (just published by Longman and Company). The object of the paper was to show that the first effect of applying artificial heat to water is not to heat the water, as such, but to convert a certain portion of it into vapour. Mr. Williams first drew attention to the fact that the rise of the generated vapour, and its diffusion through the liquid were plainly visible to the eye, a discovery which seemed to have escaped all previous experimenters, and to have been reserved as a great reward for the scientific ardour and research of Mr. Williams. At this point of the paper, Dr. Edwards, the analytical chemist of Liverpool, exhibited a beautiful experiment illustrative of the discovery, by means of an electric light. On heat being applied to a glass vessel containing cold water, instead of the series of ascending and descending currents described by all previous writers, a continuous movement upwards of cloud-like vapour was made visible to the audience. After explaining this discovery at length, and demonstrating that the movements made visible were those of vapour and not of heated currents of water, the author drew several important inferences from the phenomenon, such as that it is untrue to say, as many authors do, that vapour is formed at the surface of water only; that water, even when at a low temperature, does not contain vapour, but, reconverting it into water; that water is capable of containing, and when what is called warm or hot, does contain uncondeensed vapour or steam. It was urged that Mr. Williams's discovery rendered a revision of the common theory urgently necessary. An interesting discussion followed the reading of the paper, and the usual complimentary vote, and a vote of thanks to Mr. C. Wye Williams, who was present, terminated the proceedings.

THE TIN STANDARD.—No change has taken place in the tin standard, which remains as last quoted, viz.:—Refined, 108l. to 110l.; common, 106l. to 107l. The trade continues exceedingly dull, although there appears rather more demand for English tin. In Foreign, very little doing.—West Africa.

NOTICE.  
**BLACKSWARTH LEAD SMELTING WORKS,**  
ST. GEORGE'S, NEAR BRISTOL.—Messrs. JAMES AND JOSIAH WILLIAMS, MANUFACTURING SILVERSMITHS, of BRISTOL, beg to announce that they have succeeded the late Thomas Somers, Esq., in the above works, and will be happy to receive samples of lead and silver ore from the various mining companies, addressed 18, St. Augustine's Parade, Bristol.

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**LEAD ORES.**

Mines.	Tons.	Price per ton.	Purchasers.
Cwmbrane	11	£12 13 0	Sims, Williams, & Co.
ditto	100	22 1 6	Trefry's Trustees.
ditto	15	14 5 0	ditto
Trelawny	63	27 13 6	—

**BLEND.**

Mines.	Tons.	Price per ton.	Purchasers.
Great Retallack	46	2 15 0	Vivian & Sons.

**COPPER ORES.**

Mines.	Tons.	Price per ton.	Purchasers.
Lakey Mines (late of Man.)	101	£ 4 11 2	Newton, Keates, & Co.
ditto	101	4 11 2	Halloway, Housh, and Co., on the 29th April.
Lot 1 (ex B&S)	68	20 3 0	C. Lambert.
2 (ditto)	68	19 18 0	ditto
3 (ditto)	68	19 16 0	Grenfell & Sons.
4 (ditto)	68	19 16 0	ditto
5 (ditto)	68	19 16 0	ditto
6 (ditto)	68	19 16 0	ditto
1 (ex Covo Covo)	60	23 4 0	C. Lambert.
2 (ditto)	60	23 11 6	ditto
3 (ditto)	60	23 8 6	Bibby, Sons, & Co.

**COPPER ORES.**

Mines.	Tons.	Produce.	Price.	Mines.	Tons.	Produce.	Price.
Berehaven	80	11 1/2	£3 19 0	Knockmahon	70	9	£3 15 0
ditto	64	11 1/2	8 18 0	ditto	49	9	£3 18 0
ditto	78	10 3/4	8 9 6	ditto	24	9 1/2	7 12 0
ditto	40	11 1/2	8 19 0	Chill	54	17 1/2	13 17 0
ditto	107	11 1/2	8 19 0	ditto	53	17 1/2	14 0 0
ditto	78	11 1/2	8 19 0	ditto	45	14 1/2	11 13 6
Cobro	100	12 1/2	10 17 0	ditto	51	14 1/2	11 13 6
ditto	97	12 1/2	10 17 0	ditto	50	14 1/2	11 13 6
ditto	96	12 1/2	10 16 6	Cuba	87	10 1/2	7 18 0
ditto	94	12 1/2	10 9 0	ditto	76	10 1/2	7 18 0
Knockmahon	93	10 1/2	8 1 0	Wheal Ellen	14	40	31 7 6

**TOTAL PRODUCE.**

Berehaven	447	£2960 8 0	Chill	250	£3228 19 6
Cobro	387	£4189 11 0	Cuba	163	£289 12 0
Knockmahon	306	£273 13 0	Wheal Ellen	14	£439 8 0

**COMPANIES BY WHOM THE ORES WERE PURCHASED.**

Mines.	Tons.	Amount.
Copper Mines Company	262	£4444 15 6
Freeman and Co.	37 1/2	596 15 0
P. Grenfell and Sons	180	1801 0 0
Sims, Williams, Nevill, and Co.	362 1/2	3877 3 6
Vivian and Sons	251 1/2	2166 17 0
Williams, Foster, and Co.	189 1/2	1696 3 0
Bankart and Sons	93	1186 11 6
Sweetland, Tuttle, and Co.	143	1083 10 0
Neath Copper Company	48	519 12 0
Total	1567	£15,331 8 6

Copper ores for sale at Swansea, May 12.—Cobro 100, 95, 92, 99, 95, 83, 75, 74, 30, 14, 12—Knockmahon 51, 40, 45, 80, 47, 80, 79, 90, 36—Bolvivan ore 78, 77, 76, 74, 73, 72, 46, 40—Berehaven 106, 79, 14, 98—Copper ore 87, 5, 3, 49, 30, 3—Cape Copper Mining Company 38—Ookip 48—Springbok 30—Spekboom 40, 44, 6—Bilboa ore 53—Concordia 14, 11—Kamantoo 8—Worthing 9.—Total, 2682 tons.

**AVERAGES.**

Produce.	Price.	Standard.
British	10 1/2	£ 9 16 0
Foreign	14 1/2	11 3 6

Sale 12 7-16. £ 9 15 6. £ 96 18 6  
Totals—British, 753; Foreign, 814=1567 tons (21 cwt.)

**COPPER ORES.**  
Sampled April 15, and sold at Tab's Hotel, Redruth, April 30.

Mines.	Tons.	Price.	Mines.	Tons.	Price.
South Caradon	101	£5 6 0	Clifford Amalgamated	30	£3 9 0
ditto	92	4 11 0	ditto	29	3 7 6
ditto	91	8 12 6	ditto	26	6 6 0
ditto	64	5 16 6	ditto	19	0 19 0
ditto	58	13 16 0	ditto	17	0 9 0
ditto	55	16 8 6	Tywarthall	57	4 4 6
ditto	34	5 8 6	ditto	37	2 16 0
Great Wheal Busy	69	2 9 0	ditto	39	1 3 0
ditto	69	2 9 0	ditto	38	10 9 0
ditto	68	2 10 6	ditto	37	2 16 0
ditto	63	3 10 0	Cradock Moor	84	7 0 6
ditto	53	2 13 0	ditto	64	5 4 6
ditto	46	1 10 6	ditto	24	4 14 0
ditto	39	4 0 6	ditto	20	2 18 0
ditto	10	3 14 0	ditto	74	3 16 0</



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200,000	50	50	50	.....	280
250,000	50	50	50	.....	300

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1990



## Notices to Correspondents.

**LEAD, AND LEAD ALLOYS.**—I have read in the Journal of April 18 the interesting article, headed as above, in which reference is made to a series of experiments made about twelve months ago, as to the injurious action of lead piping upon water to be used for domestic purposes. Feeling interested in the subject, I procured the number of the Journal in which they were noticed (Feb. 8, 1862), and I there found that the two experiments referred to gave a different order of results, the first showing the "ordinary" lead piping the purest, the second showing the "extra tinned" piping the purest. Now, I should be glad to learn, through the medium of your valuable Journal, which of these results I am to take as correct.—H. J. W.

**LIABILITY OF TRANSFERREES.**—Vice-Chancellor Wood, in the case of "Taylor v. Hill," has decided that a transferee of shares conducted on the Cost-book Principle takes his shares with their past as well as future liabilities; the Deed of Settlement of the company, containing a provision for the transfer of shares, that such liability is independent of any special contract between transferor and the transferee; that the rule is not affected by the circumstance that the transferee is one of the company; and the shares in the hands of the transferee, and the transferee personally, become liable, on a deficiency of the assets of the company, to contribute towards the payment of the debt of the transferee.

**EXPLOSIVE GASES IN COLLIERIES.**—In the Supplement to last week's Journal, Mr. Goodwin is made to say to the members of the Manchester Geological Society, "We have recently had a great fire, and when I went down to see it there were 40 yards of surface all in a glow. I took the first step generally taken—shot off all the air, but it had no effect whatever! Contrary to expectations, the carbonic acid in this case, was generated (!), did not fall to the lowest point! It did not affect the burning of the coal!" Now, I wish to ask Mr. Goodwin, or some of your correspondents, if these assertions are correct, as they do not seem to be contradicted by any of the members present?—A WORKING COLLIER.

**EAST CARN BREA MINES.**—In the report of this company's meeting, in last week's Journal, some remarks relative to the principles adopted at South Frances and Wheel Basset of charging the royalty, were attributed to Mr. W. A. Buckley, which he did not make.

**WHEEL HARRIETT.**—There is a point in connection with the tin lode of this mine which seems important, though rarely alluded to—I mean its bearing, which I believe is 30° north of east. Now, Messrs. C. Thomas and N. Ennor assert that lodes with this bearing are never permanently productive. The words of the latter are:—"Lodes running north of east sometimes produce ore, but it is out of place. The lodes are intersected by something which has caused the ore to be formed, but when once they have cleared these intersections I have never seen one of them productive." Perhaps this dictum may explain the failure of the ore in Harriett. I believe its future prospects depend entirely on the copper lodes.—AN OLD BIRD.

**WHEEL ARTHUR.**—A "Young Miner" states that he has held shares in this company for many years; he must, therefore, be fully acquainted with the manner in which the mine is now conducted. As he, however, does not seem to be well up in mine management, I may tell him that it is not customary, either in Cornwall or London, to furnish lists of shareholders free of charge; if this were the rule, it must be obvious that if many such applications were made by shareholders no salaries received by purveyors or secretaries would enable them to keep their offices open. In Wheel Arthur a list of shareholders is produced at every meeting; and as in all cost-book companies, the books are open for the inspection of any shareholder applying for that purpose.—M. N.

**EAST CAMBRIAN GOLD MINE.**—I must congratulate my brother shareholders upon having such a valuable property. Being near Dolgelly, I thought I would walk over and see it, and I must say I was much gratified with my visit. Bounded by the proved rich mines, Prince of Wales and Cambrian, and having the same lodes, I cannot doubt but that it will turn out equally rich, indeed, the huge champion lode is something wonderful, cropping out of the ground to a great height, it forms a most conspicuous object. I am sure if gold exists anywhere in Wales it exists in our mine. I am told at the Cambrian they have cut a rich vein of gold in one of their lodes, which runs through our mine.—P. A.

**WELSH GOLD MINING, AND MINERS.**—In Mr. Wm. Roy's letter in last week's Journal, line 18, for "8-00025," read "0-0025."

\* With last week's Journal was published a SUPPLEMENTAL SHEET, which contains a detailed report of the Accident at the Botallack Mine—on Money Making—Foreign Mining and Metallurgy—Meetings of the East Carn Brea, North Downs, Lady Bertha, and Great Barrier Mining Companies—Explosive Gases in Collieries—The Dyes, or Permian, Formation in England—Lighthouse Illumination—Manufacture of Copper Tube—New Boring Machine—Improvements in Railway Crossings—Trial of a Traction-Engine—Gigantic Iron Casting—Prices of Materials, &c.

\* With the Journal of April 11 we gave a SUPPLEMENTAL SHEET, in which appears a Paper on the Coal Mines Inspection Act, and its Working: the Government Inspectors' Difficulties—the Coal Trade of New South Wales—the London Association of Foremen Engineers—the Association for the Prevention of Steam-Boiler Explosions—Copper Mining on Lake Superior—the North Pool Mining District, &c.

THE MINING JOURNAL  
Railway and Commercial Gazette.

LONDON, MAY 2, 1863.

We have the official returns from the Board of Trade of the exports and imports of the United Kingdom for the three months ending March 31. The total declared value of the shipments during this period of 1863 is 27,561,204*l.*, whereas in 1862 they amounted to only 26,423,763*l.*, being, consequently, an increase of 1,137,441*l.*, but a decrease as respects 1861 of 108,045*l.*, when the total was 27,669,249*l.* For the month of March these statements give 10,217,473*l.*, as the aggregate value of exports, against 9,664,649*l.* in March, 1862, and 10,950,830*l.* in March, 1861.

The articles of mining industry, again, show an excess over last year of 928,020*l.*, the total for 1863 being 6,886,047*l.*, against 5,958,027*l.* in 1862. There is, nevertheless, a decrease in five items; coals and culm being 16,466*l.* less; brass, 1554*l.*; tin unwrought, 14,788*l.*; tin-plates, 26,719*l.*; and zinc, 5069*l.*; together, 64,596*l.* The principal increase is in metals, which are 410,532*l.* over 1862, the difference between 2,377,511*l.* and 1,966,979*l.*; hardware and cutlery, 230,382*l.*; copper, 152,805*l.*; machinery, 119,900*l.*; lead, 70,714*l.*; and steel, 8283*l.*

The exports of the precious metals and bullion during the three months is less than the imports, so that the balance of trade in these articles is in favour of this country. We received 8,256,049*l.*, and shipped 7,724,547*l.*, the former being 5,104,815*l.* in gold, and 3,151,234*l.* in silver; and the latter 4,607,361*l.* in gold, and 3,117,186*l.* in silver. From Mexico we obtained 3,275,160*l.*, and sent 45,247*l.*; from the United States, 2,815,500*l.*, against only 1767*l.*; from Australia, 1,001,517*l.*, against 1212*l.*. On the other hand, we sent 3,272,567*l.* to Egypt in transit to India and China, and obtained 16,086*l.*; to France 1,538,854*l.*, against 308,879*l.* received.

At the Society of Arts, on Wednesday evening, a paper was read by Prof. ANSTED, "On the Varieties of Combustible Minerals used Economically, and Considered in Reference to their Geological Position and their Relative Value for other Purposes." Having pointed out briefly that the use of combustible minerals for fuel had been practised, to some extent, at a very remote period by the Chinese and in some parts of Hungary, but that the use of mineral fuel to any extent, as fuel, is of comparatively recent date, the whole economic history of this material being comprised within a period of some two or three hundred years, the Professor went on to describe generally the various kinds of combustible minerals that are of a more or less carbonaceous nature. First among these were the different minerals comprised under the name coal, a term that has been used without strictly correct or definite application. These minerals all agree in certain particulars among each other, and with some other carbonaceous combustible minerals that are not used for fuel, such as jet bitumens, and those bituminous minerals that have been used for the manufacture of oils by distillation. A certain part of all these minerals is carbon, a certain part is earth, and another part consists of hydrogen and some other less important constituents, varying considerably in amount.

It is possible to classify these carbonaceous minerals into groups, according to their respective properties, viz.:

1. Anthracite, which consists essentially of carbon and ash, with only a small amount of hydrogen. This mineral is really a kind of coal. Geologically it occurs in the coal measures, and it is probably the product of a more advanced alteration of ordinary coal. Its texture is brittle, and sometimes has a crystalline appearance. It takes fire with difficulty, and requires a strong blast, or draught, for its combustion, it generates an intense local heat, but is more difficult to use than ordinary coal.

2. Coal, which contains more hydrogen than anthracite, but so little ash and water that it is available as fuel for steam-boilers and general purposes. One variety of this mineral closely resembles anthracite in appearance, and is known as "steam-coal." There are numerous other varieties of coal, differing in character, from steam-coal to jet, which is a kind of lignite, differing also in composition and in other respects. Coals of all kinds are readily converted by partial burning, or by heating in close chambers, into coke. Some kinds soften and swell up when heated, and form a solid mass, whence they are called caking coals. Others retain

their form in burning, but open up into fragments; these are called free-burning, or open-burning, coals. Those containing least sulphur furnish the best coke. The kinds richest in volatile substance are much used in making gas, but in proportion to their excellence in this respect they are inferior in heating power. The best of these coals are of a compact, fine-grained texture; they do not soil the fingers, and can be carved and polished like jet. They are known as Cannel coals, and in Scotland as Parrot coal. True coal has been found recently by Prof. ANSTED in the tertiary rocks of Transylvania. Coal exists also in the lias and oolite series, both in England and chiefly in eastern Europe and America, and in the newer secondary rocks of the cretaceous series.

3. Lignite, or those varieties of imperfect coal which more closely resemble wood, and contain a larger amount of water than true coal. Many varieties of lignite contain a large amount of ash, and they generally crumble down when exposed to the air. In every respect they are distinct from the coal occurring in secondary and tertiary rocks, although the term lignite has been commonly applied by geologists to all the carbonaceous minerals occurring in these rocks, on no other ground than their geological position.

4. Bituminous shale, or those minerals that contain a large amount of earthy substance, but are useful for gas making, and for obtaining oil by distillation at a low temperature. This singular class of minerals contain much carbon and hydrogen, but they are not combined to form true bitumens. There are many varieties. The richest are found in Scotland associated with coal, and it is not unlikely that some of the partings between coal are of this nature, though they are generally thrown away as worthless. These minerals, under the name of Boghead coal and Torbanehill mineral, &c., have become familiarly known and of importance for the manufacture of oil by distillation according to a method introduced more than thirty years ago in France, and subsequently carried out in this country by Mr. YOUNG, near Edinburgh. These minerals are intermediate between the more definitely marked shales and true coal; and it is difficult, if not impossible, to draw any line of demarcation between the two classes of minerals. All agree in refusing to coke, and in retaining their slaty structure after burning.

5. Mineral asphalt, bitumen and petroleum, contain a much larger amount of hydrogen than any of the other minerals already named; some of them are used for paving; while others, that are liquid, are useful for burning in lamps, and for making gas. Of the former kind are the pitch of Trinidad and Zante, and the Chapapote of Cuba. Of the latter kind are the Rangoon and American oils; the Albert coal is also a bitumen.

All of these minerals have their special applications, as fuel and for other purposes; many that were once disregarded as useless are now very valuable. Next to those used for fuel and gas-making, there are none more interesting than the shales from which oils for burning and lubricating and paraffin may be obtained. These are the least known. These minerals are not strictly bituminous—they contain no bitumen properly so called. They agree, however, in yielding valuable hydro-carbons by distillation, and in this respect they agree with some of the bitumens, properly so called. The Professor called especial attention to the fact that there is a considerable number of these shales in the Old Red Sandstone and Silurian series of rocks, most of which have not been examined with regard to their value as oil-yielding materials. Geologically, there is no limit to the localities where these shales may be found, nor is there limit to their variety of colour and general appearance. Some of the black shales are worthless; some, of a pale brown colour, are very rich—experience and analysis are the only means of ascertaining the value of any particular variety. These minerals may almost be regarded as a new source of mineral wealth. As in the case of iron, ores are now being used that were formerly considered worthless, so it is probable that the distillation of shales may become an important branch of industry, both in the British Islands and elsewhere.

The mineral oils and bitumens are less frequent than bituminous shales, but they are more generally to be met with than is commonly thought, and they are the most valuable of all the carbonaceous minerals for the manufacture of oil.

In the course of the discussion that followed the reading of this paper, Mr. PAUL called attention to the impossibility of recognising any essential difference among the varieties of coal, or any essential characteristics of coal, distinguishing it from bituminous shale. The limitation or extension of the term coal was altogether conventional, dependent upon local circumstances and industrial requirements. A combustible mineral, containing 20 or 30 per cent. of ash, might be used as fuel at the pit's mouth, but it would not be used at distant places for that purpose, unless there was a deficiency of other fuel. In this country such a mineral, however well it might burn, would not be called coal, simply because it was combustible, and dug out of the coal mine. The general applicability of such a mineral as fuel is the real criterion by which it would be regarded as coal, or as something else. Scientific distinctions in this case are totally useless and insufficient for any practical purpose. Whatever particular feature of coal and shale is examined, there are only differences of degree to be recognised, differences that are as great among coals themselves as between coals and shale generally. The ash of coal, though less in quantity than in shale, is of the same nature chemically. The composition of coals differs only in degree from anthracite to Cannel coal. Even in the appearance, the same gradational differences are evident. Then, taking some of the poorer Cannel coals, and comparing them with the richer shales, it is sometimes impossible to tell which is which, and the closer the subject is examined the less it is possible to draw any rational distinction between coal and shale, other than differences in degree.

As to the relation between differences in the composition of coal and their character or value as fuel, Mr. PAUL said that he could not quite agree with Prof. ANSTED, if he understood him correctly to say that the varieties rich in volatile substance fail in heating power. The differences between coals as to the amount of volatile substance they yielded when heated, does not affect their heating power, provided proper arrangements are made for burning them, and preventing the volatile substances escaping unburnt, as smoke. Many of the well-known steam coals of the Wales district are almost identical in composition with the coals of the Hartley district, but they differ very much in the amount of volatile products they yield, Welsh coal giving very little, and Newcastle a great deal. This is the really important practical difference. It was in consequence of this difference that in the examination of coal for the Admiralty, the Hartley coals were reported to be inferior in fuel value to the Welsh coal, and that result was arrived at solely by reason of an improper method of testing these coals. Instead of using the coals in furnaces adapted to the special peculiarities of the coal under examination, every kind of coal was submitted to the same treatment, without any regard to its special character. The subsequent trials, made under the direction of the engineers appointed by the Collieries Association, showed fully that the Hartley coal is as good a steam coal as the Welsh, when properly used.

As regards the distinction which some persons maintained to exist between coal and shale, the character of yielding a fixed carbonaceous residue—a coke—had been generally recognised as a universal character of all coal. There are differences in this respect among coals—Anthracite gives 93 per cent., Welsh coal 80 to 70 per cent., Newcastle and Midland coals 70 to 60 per cent., Cannel coal 60 to 40 per cent. of coke. The bituminous minerals of Boghead and Torbanehill give 30 per cent. of residue, and that has been called coke by some persons, but these minerals contain upwards of 20 per cent. of ash, while ordinary coal does not contain more than 5 per cent. of ash, so that to ascertain the relation these minerals bear to coal as regards the fixed carbonaceous residue they yield the ash must be deducted, and the ratio of the volatilisable substance to the fixed carbon will then be found to be very widely different in these minerals from what it is in any known coal. In Newcastle coal, which yields the largest amount of volatile substance, the ratio of volatile products to fixed carbon is 34 to 66. Even in the Albert coal, which is a very exceptional coal, the fixed carbon amounts to half as much as the volatilisable portion. In the average of Cannel coal the fixed carbon is equal in amount to the volatilisable portion. But in the Boghead and Torbanehill minerals the fixed carbon is less than one-seventh part of the volatilisable portion. In this particular, then, there is a sensible difference of a large amount, and the comparison of these minerals, in the same manner, with bituminous shales, used for making oils 30 years ago, leads to an important result. In one of these shales the ratio of the fixed carbon to the volatile portion is 20 to 80, in another it is 5 to 95, while in the Boghead mineral it is 12 to 88, and in coal it is on the average 63 to 37. Another important difference between these minerals and coal consists in the nature of the oily products obtainable from them by distillation. Some coals not only yield less oils, but the oils they give are different from those obtainable from shale, in which the bituminous substance appears to be of a different nature from that in coal. Taking these two characters into consideration, and with the fact that the Boghead mineral would never in this country have been recognised as coal, when considered as to its applica-

bility as fuel, it appears more correct to regard it as a bituminous shale, since it so clearly resembles other bituminous shales in those characters which constitute its value, and so widely differs from coal in those characters that are regarded as universal in coal.

## MINING IN IRELAND—No. IV.

(FROM OUR CORRESPONDENT IN THE COUNTY OF CORK.)

During the last few days Messrs. Thomas Cooper Smith and W. C. Paul paid a visit of inspection to the Crookhaven, Roaring Water, and other mines in the district. At the commencement of Crookhaven Mine the site of the engine-shaft was fixed with the view of intersecting the purple copper lode at a perpendicular depth of 60 fms. from surface. The shaft, however, has been sunk between 70 and 80 fms. without intersecting the purple copper lode, from which it is clear that the lode has a less underlie downwards; or, what is more probable, it may have changed its underlie from north to south, and this fact might have been ascertained long since by dialling the 20 cross-cut south, in which some parties say the lode has been cut; and, taking the underlie of the lode in the old stopes, the branch cut in the 20 cross-cut south is probably a north dropper from the lode, but not the main lode itself, as it is some 10 or 12 ft. wide at or near the surface. By running a shaft through, however, from the bottom of the old stopes, on one of the true walls of the lode, to the 20 cross-cut, a very important question as regards the stability of the mine would be decided; it would also set the matter at rest as to the distance to be driven in the 70 cross-cut to reach the purple copper lode. Crookhaven Mine, from the beginning to the present time, has had an unusual degree of attention paid it by the numerous inspectors, and as it is said in a multitude of counsellors there is wisdom, we might assume that in a legion of inspectors there would be found also a vast amount of wisdom. The assumption, however, does not appear to be borne out by facts, and the object for which the mine was started appears to have been lost sight of altogether—viz., the working of the purple copper lode, the only lode in the mine, in the opinion of those who are best acquainted with the district, which holds out a chance of success. All the ore raised and sold (some 1100*l.* worth) was produced from the purple, or south, lode; and it is the opinion of competent judges that, if all the operations in the mine are confined to the development of the south lode, the shareholders have a fair prospect of being rewarded for their persevering outlay of capital, and finding in Crookhaven a good mine. At Roaring Water Mine they have opened several lodes of a promising character in shallow levels, which, being a continuation of the productive lodes of the Schull district, Messrs. Smith and Paul have wisely it is considered, fixed the site for an engine-shaft, which it appears is forthwith to be sunk, so as to command the intersection of all the lodes at a proper depth. The following is the concluding paragraph of Prof. Jukes's notes on the mines of the south-west of Cork:

"The south-western part of the county of Cork is a district which, perhaps more than any other, requires great caution, as well as skill and prudence, to mine with profit, and is a most delusive district to the speculator, from its containing so many of these specimens of rich ore, many of which have not indicated the existence of much more ore than was actually seen in the specimen."

I would respectfully ask (if the public believe in Mr. Jukes), could anything be written so deeply injurious to the mining interest of the south-west of Ireland as the above paragraph? This is not a personal subject, but a question of national importance, and Mr. Jukes should either prove or retract his statements. Where are those mines to be found, "many of which have not indicated the existence of much more ore than was actually seen in the specimen?" Cappagh Mine is not yet cleared out to the bottom, but, in a few months in forking and clearing an old mine they have raised between 70 and 80 tons of splendide ore; it would take a great lot of specimens to make up 80 tons of ore. There is a fine course of ore in the bottom of Ballycummisk Mine, and the engine-shaft still sinking. This mine has produced some 15,000*l.* worth of ore. The best lode in Schull Bay Mine is in the bottom; this mine has sold between 20,000*l.* and 30,000*l.* worth of ore. What a lot of specimens it would require to make up 40,000*l.* worth of ore. There are also small mines in the district only yet worked from 6 to 20 fathoms deep, which have produced scores of tons of ore, and only require to be properly opened in order to become great mines. But is it any wonder that the capitalist, especially the Irish capitalist, would seek for investments abroad instead of at home, when the law has been laid down, by a great authority, that in some mines there are "specimens of rich ore, many of which have not indicated the existence of much more ore than was actually seen in the specimen?" The south-west of Ireland was at one time laid down as old red sandstone; it then changed to new red sandstone; then it was yellowish, whitish, greyish; and finally, by the touch of the wand of the geologist, all these varieties of rocks have been changed into "coombhoola grit." The Lord save us!—what next? Why does not Prof. Haughton visit and examine the mining districts of the south-west of the county of Cork? his opinion would be of the greatest importance to the mining interest. He understands what he sees and describes, and examines the geology of any district he visits underground, the only place to form a correct opinion of the value of a mine. Let us hope, therefore, that the learned professor will come down and examine our mining districts, and do justice to "old Ireland's mines."

## REPORT FROM NORTHUMBERLAND AND DURHAM.

APRIL 30.—The Coal Trade has not improved much since our last. The weather has been extremely cold and boisterous, and if at all general, this will no doubt improve the house coal trade. But in the meantime, as we have had strong north-west winds, the movements of shipping have been much retarded, and owing to this cause some collieries have experienced a scarcity of ships. This has been the case especially in the southern division of Durham, ships having been rather scarce at Hartlepool. Although, as we last week reported, the tone of the trade has improved a little, still much competition for orders exist. This cannot be denied, and so long as this is the case (both in the London and coasting trade) it is in vain to expect a healthy state of the trade and good prices. The Committee of the Coal Trade, lately appointed, have published their report, which differs little from the former one. After noticing that the former report urged upon the owners of collieries the necessity for limiting the supplies, and of only working (as the maximum) eight days per fortnight, it observes that this recommendation has only partially been acted upon, and therefore further draws the attention of owners and managers to the subject, and urges them to continue to limit the quantity until the trade assumes a more healthy state. This is, no doubt, the only proper course to pursue under the circumstances, and if persisted in, so far as practicable, there can be little doubt that as the iron trade is rapidly increasing in the district, a market will shortly be found for all the coal raised in the district, or, at least, for such a quantity as will keep the works fairly employed.

Among the importations into the Tyne last week were several cargoes of pyrites, timber, &c. The following goods were exported:—52,114 tons of coal, 3550 tons of coke, 19,955 cwt. of iron, 17,889 cwt. of alkali. There was an increase in the shipment of alkali of 9300 cwt., and a decrease in the coals of 9341 tons, coke 1449 tons, and iron 2133 cwt. The Iron Trade is by far the most buoyant in the district, and continues to improve and expand most rapidly. The foundation-stone of a new building was laid on Tuesday, at Jarrow, intended to be devoted to the purposes of a Mechanics' Institute, but under this designation it embraces much more than ordinary institutions of this kind, as it comprises a news room, lecture room, and theatre; and also coffee rooms, club rooms, bath rooms, &c. The largest contributors to the necessary funds are the Messrs. Palmer, eminent iron shipbuilders, iron smelters, &c. Already upwards of 2000 men are employed by them in the various processes here—that is, in iron smelting—the ore being brought from near Whitby, on the Yorkshire coast—iron shipbuilding, engine building, &c.; the latest additions to the works being rolling-mills, extensive saw-mills, &c., the rolling-mills being intended mainly for rolling plates, &c., for shipbuilding: 500*l.* has been contributed by Messrs. Palmer to the building fund of the institute, and the workmen and agents employed by them will also be among the principal supporters of the scheme. The Consett Ironworks are also reported to be tolerably well employed at present, but a most remarkable calm appears to prevail respecting the railway some time ago projected to connect that important locality with the town of Newcastle-on-Tyne. The scheme of the North British Company for effecting this object, and also for making a line in some measure to double the main trunk line to the North, was, we think, frustrated by the North-Eastern Company, the latter company engaging to construct this very necessary branch line to Consett district, and also the Team Valley Line.

The process of improving the channel of the River Tyne continues to be rapidly accomplished, the most powerful dredgers are employed in this work, and large hopper barges are engaged in conveying the debris to the sea. Messrs. Thomas Wingate and Co., of Whiteinch, on the Clyde, are



now erecting two of the most powerful deepening machines in the world for the Tyne Improvement Commissioners, being about 1200 tons register. Last year they supplied the Tyne with the largest deepening machine which had then been built, and as it has given the most entire satisfaction, performing the work at half the former cost, the Commissioners have ordered two more powerful machines, which are now nearly ready for launching. Each of the buckets connected with these machines weigh 25 cwt., and the cost of each will be close upon 30,000l. This firm is also preparing to build nine screw hopper barges for the Tyne Commissioners of 400 tons each, which will be used to convey the dredgings of the river out to sea; these will cost about 4000l. each. The formation of the Lowlight Docks, however, which has been so much agitated, appears to be in abeyance, and this is much to be regretted, as there can be no question that its formation would materially improve the steam coal trade, which is in a very languishing condition at present, by accommodating a large class of vessels, for which every facility is about to be afforded, by deepening the bar at the mouth of the river, and also the main channel.

#### REPORT FROM DERBYSHIRE, YORKSHIRE, AND LANCASHIRE.

APRIL 30.—The Iron Trade continues to be dull, but the older and larger firms have a sufficient number of orders on hand to keep their works in full operation. The more needy makers are pressing sales, and in many instances very reduced rates are accepted, which raises loud complaints of underselling. At present the strike of puddlers in South Staffordshire has not had any visible effect upon the workmen in these counties, but a strong opinion prevails amongst the men that they are underpaid. Pig-iron is dull, and there is very little doing, prices being unsteady, and very variable. There is a good demand for heavy iron and steel, but at Sheffield the orders for cutlery and lighter goods are reported to be falling off. The Federal States continue to buy largely all descriptions of war material. In Lancashire there is a further decrease in the demand for all kinds of manufactured iron, and the accounts which travellers give of the difficulty of transacting business is very deplorable. The political aspect of affairs is operating prejudicially to business. From Australia and New Zealand large orders have arrived for machinery and tools. The enquiry for railway iron, for home as well as export, is brisk, and judging from the orders in hand it is likely to be so throughout the summer. The recent visit of the Lords of the Admiralty to the Atlas Works, Sheffield, has greatly popularised these extensive works, and there are daily numerous applications for admission from the public to view the process of making armour-plates. The people appear to be astonished at the manufacturing capacity of this firm. The Coal Trade is very dull, and at many collieries the men are only working half-time. The great cause is the depression in the manufacturing industry of the country. The extreme mildness of the weather throughout the winter and spring has also materially affected household consumption. There is a good demand for coal for gas-making and locomotive purposes, but the kinds are very slow sale. The production during the past year has been considerable, and this, combined with a continued depression in the cotton trade, has caused the markets to be well stocked. The business which prevails is general throughout these counties, and according to the present aspect of things there is no probability of an early improvement.

A remarkable instance of a sudden outburst of gas in the Silkestone seam occurred a few days since in the Stratford Main Colliery, near Barnsley, which may throw some light upon the way in which some of those explosions which could not be accounted for have occurred, and which, at the same time should serve as a caution against using naked or mixed lights in any colliery in which fire-damp exists at all. Mr. George Adcock, of Barnsley, fireman at the colliery in question, states that, upon going round the north workings on the morning of April 13, when upon coming to the slit end of No. 2 bench, on the south, his lamp was at once filled with damp, no previous warning whatever having been given. The escape of the gas is described by those who were present as resembling the blowing-off of an engine, and every one admits that a single naked light or the return of the air over the furnace must have resulted in an explosion of an alarming character. The peculiar part of the matter is, that the following-up bench, from which the gas came, the quantity being many hundred thousand feet, was so situated that the coal was worked on every side of it, and 8500 feet of air per minute was passing. Surely this is a position in which fire-damp would never have been expected, and proves the necessity of its being made compulsory for safety-lamps alone to be used in every instance.

Since the paper on the West Ardsley coal-cutting machine has been read at the North of England Institute of Engineers, some interesting particulars respecting it have come to light, and certainly the balance of profit does not appear to be much in favour of the machine. It is said that all the coal cut down in kirling with the machine is unmistakably slack, whilst with hand labour much is saved as round coal. The cost is also against the machine, for, whilst kirling by hand can be done at 3½d. per yard, or 21. 5s. 10d. for 100 yards, the cost of doing the same amount of work by the machine (even according to Mr. Ridley's own showing, in the Journal of last week) would be 21. 7s. 6d., exclusive of the wear and tear of the machine. It is calculated that, where colliers can be got at 4s. per day, there would be a positive loss by using the machine, and it is a question whether the West Ardsley Colliery party can disprove that assertion.

The position of the Derbyshire lead mines is somewhat similar as when last noticed. The plant and materials at the North Derbyshire have been valued, and the committee are now looking out for a purchaser. There appears little doubt that the mine will go into new hands, and be further developed by fresh capital. Eyan is looking pretty well, and hopes are confidently expressed that an improvement will be experienced very shortly. The shareholders of the Portway Mine held a meeting at Sheffield on Tuesday, as to the condition and prospects of the mine, but it was determined to adjourn for a week. There is a full speculation in lead mines in Derbyshire at the present time, owing principally to the badness of trade, and also from the unsatisfactory termination of the affair of the North Derbyshire Company. The Mill Dam is doing well, and the company are busy putting down extra pumping-machinery.

The applications for new patents include—Mr. J. Lambert, Sheffield, for improvements in ball-cocks; Mr. P. Passavant, Bradford, for a blue colouring matter, which he terms "Bleu de nuit," and also of violet colouring matter; Mr. C. Pooley, cotton spinner, for machinery for preparing and spinning cotton and other fibrous substances; Mr. S. Harrison, Gell-street, Sheffield, for a new and improved mode of manufacturing type for letter-press printing.

#### REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

APRIL 30.—The Iron Trade continues dull, though in a few cases there are rather more orders to hand within the last week. The vendors of Pig Iron still find consumers indisposed to purchase, except at such a reduction as they are not inclined to submit to, since ironstone keeps up, and the cost of production bears a heavy proportion to the rate at which last quarter's sales were made. Cleveland pigs are gradually making their way into the district, and are offered at 3l. to 3l. 1s. per ton, delivered. They are spoken pretty well of as a mixture, and are especially well adapted for melting purposes. The puddlers' strike is not yet over. It applies, certainly, to only a few works near Dudley, but they are of considerable extent. A meeting of the leading ironmasters was held at Birmingham, on Thursday (Mr. Philip Williams in the chair), when the feeling was that it was the bounden duty of the masters to support each other—in fact, to meet combination on the part of the men by one among themselves. A resolution was, therefore, passed, by which those whose works are still going (by reason of their puddlers having remained with the old wages) pledged themselves to deliver puddled bars in the ratio of 1 ton to each puddling-furnace, to such of the works as are now standing consequent on the men being upon the strike. This will have the effect of setting the mills going, and place each employer exactly in the position as if he were converting his own "pig." Lord Dudley will most likely fight out his own battle with the men, but other employers need the support and countenance of their brethren in the trade. At some of the works where the men are out the underhands have been employed to puddle, and if this should succeed the men will find their places occupied when they would return to their work. The course which the puddlers have adopted on this occasion has directed fresh attention to the inventions which aim at substituting a mechanical process for the hand labour of the puddler, so as at least to save half the labour now employed in the process. Unfortunately the two inventions which appear to possess in combination the means of effecting this result belong to distinct inventors—the one to Mr. Bernard Walker, of Wolverhampton, and the other to a Mr. Tooth, resident in the metropolis. It is probable that by the combination of the two the object may be attained.

File-making by machinery is about to be carried on in Birmingham by a company. The series of inventions by which the operations are to be conducted are described as remarkably ingenious and successful. Not only are the files to be cut by machines, but they are also to receive the proper form by rolling, and are to be ground by a similar operation; and a new system of hardening has also been introduced, by which one man and two assistants can harden 100 files at one operation as easily as one was tempered under the old system. It is said that what cost 100l. previously may be now produced for 43l. Birmingham has been selected for the manufacture, as the trade combinations at Sheffield would, in all probability, defeat any attempt to introduce the new processes there.

Last week Mr. R. Hunt, of the Mining Record Office, commenced a series of lectures at Birmingham, "On Mining and Metallurgy," and in course of his first address predicted the speedy working out of the minerals of South Staffordshire. These remarks have led to rejoinders, but it is singular that, on the very day the report of the lecture appeared, a letter by Mr. J. S. Dawes, a colliery proprietor and ironmaster, was inserted in the same paper, calling attention to the great mineral resources which the southern portion of the South Staffordshire basin possesses beneath the Pennines. It has been repeatedly noticed in this letter that Mr. H. Beckett, mineral surveyor of Wolverhampton, and professor of geology at the Midland Institute, Birmingham, has for many years past directed attention to the reasons which exist for believing that vast tracts of valuable coal lie untouched under this stratum. In two instances, particularly, the correctness of Mr. Beckett's views have been amply confirmed,

in one case by sinkings made by the Earl of Dartmouth, near Birmingham, and in another by the Lilleshall Company, at Shropshire, which resulted in the discovery of a valuable seam of coal within a few yards of the level which Mr. Beckett had indicated, and which prediction was based on the theory of the connection of the Shropshire and South Staffordshire districts by a vast tract of coal, which may well abate the fears that Mr. Hunt's prediction might otherwise excite, when he said that "a century hence, and the Black Country between here and Wolverhampton will be overgrown again by forest trees; the iron manufactures will take its seat elsewhere, for your coal will be exhausted." In addition to the vast resources thus indicated, and the existence of which may be said to be demonstrated, the mines of Cadock Chase are only just being touched, and geologists anticipate that the coal-bearing area is considerably greater on that side of the field than has yet been proved.

A large number of scientific gentlemen met at Friar Park Ironstone Works, near Wednesbury, belonging to Mr. W. H. Dawes, for the purpose of excavating and carefully examining two large fossil trees. Amongst the company present we noticed Messrs. Prof. Beckett, S. Allport, T. Allport, Birmingham; E. Aulton, Rev. J. W. Bain, S. Bailey, L. P. Capewell, Joseph Cooksey, Wm. Dawes, Jun., Barnard Douglas, J. N. Fellows, W. M. Fuller, C. Gray, Wm. T. Heming, Redditch; C. Swan, Redditch; J. Hough, Robert Henderson, Edinburg; H. Johnson, H. Johnson, Jun., J. Lindop, J. Lindop, Jun., Piggott, W. E. Richardson, London; J. J. Sheddin, Rev. H. Troughton, and Herr Weiss, Berlin. The party was convened by circular from Mr. Henry Johnson, and met on the ground at 11 o'clock, and at once proceeded to examine the fossil trees then *in situ*. The special object being to determine their genus and geological position; and, after a patient investigation, it was agreed that they were specimens of gigantic *Calamites*, a tribe of extinct plants that flourished during the coal period, and very analogous to *Equisetum*, or *Horse-tail*, of our swamps. One tree was about 6 ft. high and 2 ft. in diameter, erect, and slightly fructured transversely, both ends were truncated, and had, unfortunately, no trace of roots. The portion *in situ* of the other specimen was about 5 ft. high and 3 ft. 6 in. in diameter, and was horizontally fructured in two places, and apparently completely inverted. A portion of this about 1 ton weight, had been previously removed to the surface of the open work. The characteristic markings of both specimens were beautifully preserved in a coating of coaly matter. They were dislocated at the horizontal fractures in the direction of the dip of the strata. They were embedded in the blue shale of the fire-clay balls ironstone measures, 20 ft. from the surface, and were surrounded by large balls of that bed: 10 feet of the upper surface of the open work consisted of an alluvial drift. The mineral character of the trees was very remarkable, the upper portions being white sandstone, and the lower rich argillaceous ironstone. A series of four stereographs (by Mr. McCormick, Walsail) of the trees, taken before they were examined, were exhibited by Mr. Samuel Bailey, and elicited much praise. Through the kindness of Mr. W. H. Dawes, the greater portion of the two specimens have been secured for the Dudley and Midland Geological Society, and have been sent by the contractor, Mr. M. Simpkins (who willingly rendered every assistance for their removal), to the care of Mr. Henry Johnson, of Dudley. The party then adjourned to examine an extensive and interesting drift in an adjoining open work, which excited much attention and speculation as to its physical character; and after about four hours' exploration the party retired, having enjoyed a very intellectual treat.

An important invention for the safe closing of gates at railway crossings has been patented by Mr. Charles H. Lea, of Shallowford, near Stafford, who has constructed a working model of the patent in brass, which has received the approval of numerous railway directors and scientific gentlemen. By means of the new apparatus, the gatekeeper, without moving from his box, throws open or closes the gates in the briefest possible space of time. The signals are simultaneously raised as the gates open. The machinery employed is of the most ingenious design, comparatively inexpensive, and, having very little friction, is not liable to get out of order. It is intended to be used in the immediate future, and the model being worked by simple cranks, it is at times under the immediate control of the gatekeeper.

Daniel Corns, chartermaster, in the employ of the Silverdale Company, was charged, before the Newcastle magistrates to-day, with violating the 16th rule of the Coal Mines Inspection Act, by neglecting frequently to examine all parts of the pit under his charge. The case was stated by Mr. J. Bostock, the working manager. The defendant pleaded guilty to the charge; and the Bench, considering cases of this sort required to be dealt stringently with, inasmuch as loss of life and serious damage to property might ensue on account of such conduct, fined the defendant 40s., and 10s. 6d. costs, or in default to be committed to the House of Correction for one calendar month.—James Lawton, a working collier in the employ of the same company, appeared to answer a charge of violating the 38th rule, by working with a naked light in one of the pits. This defendant also pleaded guilty; but as he had been severely burnt in consequence of his folly on the occasion referred to, the Bench thought it might prove a lesson to him, and dismissed the case on defendant paying costs.

An explosion of fire-damp took place, on Monday, at the Brookhouse Colliery, belonging to Messrs. Pratt, Crewe, and Knox, at Bucknall, near Hanley, and resulted in the death of Mr. Knox, one of the proprietors, and serious injury to four workmen. The firm were preparing to commence working a new seam, about 27 yards from the bottom of the pit, and a scaffolding was erected in the shaft at that height for the men engaged in opening the new vein, and three men were "holing" in the opening they had made in the side of the shaft; and Mr. Knox, desirous of seeing how they were going on, went down the pit along with Boon (sinker), who was going down to superintend. While Mr. Knox and Boon were on the scaffold, a quantity of fire-damp exploded, and forced the scaffold some distance up the pit. Mr. Knox fell into the snuff at the bottom of the shaft, and was taken out dead. Boon fell to the bottom of the shaft, and was so severely injured, that when he arrived at the Infirmary shortly after he was not expected to live. The three men were severely burned, but not dangerously.

#### REPORT FROM MONMOUTH AND SOUTH WALES.

APRIL 30.—The Iron Trade evinces a fair amount of activity, and the various works are kept going with their accustomed regularity. The ironmasters generally entertain hopeful prospects as regards the future, and this is conclusively proved by the additions and improvements that are in progress at the different works, with the view, no doubt, of meeting any increased demand which may arise. It is currently rumoured that Mr. C. Bailey, M.P., has purchased the Llanelly Ironworks, near Brynmawr, and that ere long these once-flourishing works will be in active operation again. The Messrs. Powell, of Monmouth, formerly held the property, but they were unsuccessful, and the works have been stopped for three or four years. If Mr. Bailey has really become the purchaser, then there is no doubt but that something will be done before long. An old forge is in course of being rebuilt at Dowlais, and in a short time it will be ready for work. The old coke works, near Whitechurch, Cardiff, has just been taken by a company, and it is intended to erect an iron establishment there for the production of armour-plates, &c. Preparations have already been commenced in clearing the ground. Messrs. Booker's Mellingriffith tinworks, after a stoppage of nearly two years, has been again started, and a good number of hands are already employed. The Coal Trade evinces considerable buoyancy, and the shipments this month have been large. The return of coal raised at Aberdare for the quarter ending March shows an increase of 11,089 tons, and it is expected that the present quarter will show a still further increase. Prices continue low, and the colliery proprietors complain bitterly on this head. I fear much improvement will not be witnessed for a long time to come, as should the demand increase there will be a corresponding increase in the supply, by new collieries being opened in all directions, and thus prices will be kept down.

Branches of the Bank of Wales (Limited) are about to be opened at Newport and Swansea; Mr. George Allen, formerly of the Glamorganshire Company's bank, has been appointed manager of the Swansea branch, and Mr. John Cross, formerly of Messrs. Bailey and Company's bank, has been appointed manager of the Newport branch.

The various railway bills connected with the district are slowly progressing through the committees of both Houses, and several have undergone the final struggle, with slight modifications. The bill for the construction of a branch from the Brecon and Merthyr to the old Rumney, and the leasing of the latter to the former company, has passed the Lords' committee. The oppositionists were the Taff Vale and West Midland Companies. The lower portion of the Bargoed Railway is to be made by the Rhymney Railway Company, and the Brecon and Merthyr are to have running powers over it, with a junction to the old Rumney, giving in return running powers to the Rhymney and Brecon in the direction of Dowlais. The clause restrictive of the through traffic to Cardiff, until a junction with the Taff Vale is effected, is to be continued, and the West Midland are to have running powers from Hengoed Junction to Rhymney. The decision of the committee has given general satisfaction, as reasonable facilities are given to all the contending companies. There is no doubt now entertained but that when once the old Rumney line is put in order, and properly managed, a vast increase of trade will be the result to Newport, as by means of it and the Aberdare branch of the West Midland the port will be placed in direct communication with the first coal and iron districts of South Wales. The committee on the Dore Valley Bill advises the promoters and the Taff Vale Company to come to some arrangement. The suggestion was acted upon, and the result was that the Vale of Neath withdrew their Aberdare Valley scheme, and the Dore Valley Bill passed with certain modifications. When this line is completed the colliery proprietors will have the benefit of a broad and narrow gauge, and they will be able to ship at Newport and Cardiff, as well as Swansea and Briton Ferry. The trustees of the Marquis of Bute have failed in their appeal to the Lords Justices to show that the covenants and deeds between them and the Taff Vale Company rendered it obligatory on the latter to ship all the minerals brought over the line at the Bute docks, and the appeal was dismissed with costs. It is expected, therefore, that no further opposition will avail against the leasing of the Penarth Dock and Railway to the Taff Vale Company. The proposed amalgamation of the Great Western, South Wales, and West Midland next deserves notice. The bill has passed the Commons, despite all the opposition to it, but the promoters will, without doubt, meet with a much more united and determined opposition in the Lords. There is an universal opinion prevalent in this district that the amalgamation will prove most mischievous to the trading community, as it will effectively put an end to all competition. To all intents and purposes, the Great Western, West Midland, South Wales, South-Western, North-Western, Midland and Great Northern Companies will be united, as there are clauses in the bill by which each of these companies agree to charge proportionate tariffs from competing points—that is, supposing the distance between two towns is the same by the Great Western and North-Western, the two companies are bound by this compact to charge the same fares and tariffs. It will be at once seen that the public cannot fail to suffer by such an arrangement as this, and, therefore, it is not surprising that the commercial community of South Wales should show such a determined hostility to the bill. It is right to state that the Newport Corporation have present a petition in favour of the union, but I am informed that many of the leading men of the county are opposed to it, and a petition against the bill has been numerous and influentially signed. We may expect, therefore, that the struggle will be no ordinary one, and whatever will be the result, it is to be hoped that our legislators will remember the fact, that the only real safeguard which the public possess against the monopoly and high charges of railway companies is competition. At a committee meeting, Mr. Gladstone, M.P., who has property in the district, gave evidence in favour of the proposed Oswestry, Ellesmere, and Whitechurch Railway. As

regards the mineral riches of the district around Harding, a discovery, he said, had been made last autumn, which tended to show that in former times the upper strata only had been worked, leaving until now undiscovered a valuable coal field, 20 ft. thick, unworked and unexplored. The proposed outlet from Wrexham, in the direction of Stafford, would be a great local advantage, and the line was well adapted to develop the mineral resources of the district.

Several deaths have lately occurred through blasting in fiery veins of coal, and Mr. Overton, the coroner for the Merthyr district, at a late inquest, strongly condemned the practice, without the most careful supervision on the part of the managers. Unfortunately, however, the men often resort to blasting without the knowledge of their superiors, and many fatal accidents have been the result. In some instances it was rather questionable whether the rules had been sufficiently explained to the colliers, many of whom are unable to read. Firemen are also often employed who can neither read or write, which is assuredly a great mistake. The question deserves the serious consideration of colliery proprietors, and the *Cambrian Daily Leader* suggests that a Mining School should be established, where all firemen, overmen, &c., should spend a certain time in improving their education, and more especially in increasing their scientific knowledge respecting matters connected with mining. The suggestion is a highly commendable one, and it is to be hoped that it will command the attention of those who have the means and power to promote the object in view. Mr. Frederick Bennett, the metallurgist of Holywell, has just patented an improved method of condensing lead and other metallic fumes and vapours from furnaces.

#### FOREIGN MINING AND METALLURGY.

We propose to take a more detailed review of the mineral wealth of France than we have yet attempted in previous paragraphs upon the subject. The department of the Allier, to commence high up in the alpine, possesses considerable stores of antimony. At the Montmarial mine, a mineral of sulphurised antimony forms a vein directly from north-north-west to south-south-east, in the ancient rocks which form the soil of the district. This mine, discovered in 1763 (exactly a century since) by the Carthusian friars of Moulins, has been at various periods the subject of very considerable works. A score of pits of a maximum depth of 70 ft. have been sunk over a distance of upwards of 700 ft., in the direction of the vein. A discharging gallery, intended to unite itself with the bearing at a distance of 2000 ft., was even undertaken at the level of the bottom of the valley, but a length of only about 300 ft. was executed, and the work was abandoned in 1776, at the same time as the mine and the foundry, without the recollection even having been preserved of the causes which led to this step. The bearing of Bergerats is situated rather more than half a mile to the east of the preceding, and appears to be composed of several parallel veins running from north-west to south-east. It was conceded in 1783 to the Dominicans of Moulins, who farmed the mine on an undertaking to deliver by way of rent the fourth of the regulus of antimony obtained. Nine or ten pits, one of which was 100 ft. in depth, were sunk at this period, and yielded much sulphur of antimony. The Jordinats Mine is situated near the Montmarial and Bergerats; it was conceded in 1794, but no account has been preserved of the works which were executed, although there is every reason to suppose that the bearing was not exhausted at the time that it was abandoned. Some indications, but of no great importance, of a vein of sulphur of antimony have been observed also in the commune of Ferrières, in the arrondissement of La Palisse. The department also possesses manganese. The concession of Salzgry, forming the establishment of Gouttes-Ferrières, consists of nests and heaps of mineral, disseminated through a very compact yellowish clay, associated with ferruginous quartz, comprised in transition earth, which at a little distance presents, basals, schists and calcareous formations. Indications of minerals appear frequently on the surface of the soil, and explorations commenced in 1826 led to a concession being granted in 1831. The working, which was continued for a dozen years, produced annually 350 tons of manganese, and the mine appears to be still unexhausted. The department of the Basses-Alpes has copper, lead, &c. As regards the first, the Barles Mine comprises indications of copper minerals in great abundance, but some researches which were prosecuted in 1845 did not yield very conclusive results. With respect to lead, the concession of St. Geniez-de-Dromont, situated in the hamlet of St. Geniez, two miles to the south of the village of St. Geniez, and 5½ miles north-east of Sisteron, comprises seven principal veins, directed towards the north-east, with an inclination of 35°, enclosed in a small calcareous hill of lias. The gangue is composed of sulphated barites, carbonated lime, carbonated iron, and pyrites of iron; the vein ranges in thickness from 4 to 40 in. Galena, only slightly argentiferous, is disseminated through this gangue, and sometimes it is found in small lumps, in an ochreous clay. These veins are united by other smaller ones, which cut them at all sorts of inclinations and in all directions. To the north of this bearing, in an argillaceous schist, fine veins of galena are also found. This bearing has been a very long series of years the subject of a great number of works, which have always been directed to the upper part of the vein. The working interrupted in 1792 by the great revolution, was resumed in 1811, and continued until 1821. The parties carrying on the works were then dispossessed, and operations were suspended. The mineral obtained has always been sold as black lead, and no foundry has ever been established on the spot. Near the village of Aubrieux, to the south-east of St. Geniez, there exist in calcareous lias veins of sulphated barites, containing a certain quantity of fine-grained galena, and an infinitesimal proportion of silver. Exploratory works carried on some time since near Colmar, at the upper part of the valley of the Verdon, have produced fine specimens of galena. The Maconnais bearing is situated between the valleys of the Verdon and Barcelonnette, near the Hill of Allons. It was discovered in 1762, and was worked for a brief space at two periods, in 1768 and 1786. The Curban Lead and Silver Mines are situated 1½ mile from the hamlet of Curneury, at the foot of the Ajuaral Mountain. They contain several parallel veins, enclosed in schists and calcareous of Jurassic earth. The principal vein is nearly 1 ft. 9 in. thick, and is directed towards the east with an inclination of 50° towards the south. The gangue is formal of carbonated lime and blackish clayey marl. Galena is disseminated very irregularly in lumps, and contains faint traces of silver. These mines were conceded successively in 1718, 1770, and 1785, and it is especially from the last period that the working date. A foundry was established on the spot, which was rich in wood, and at this establishment founding operations were carried on with the poor minerals which could not be sold as black lead, and which proceeded from Ceulan, Bréziers, Arzeliers (Hautes-Alpes), and Piégny (Basses-Alpes). The working, which was abandoned in 1793, in consequence of the events of the revolution, has not since been resumed. The Piégny Mine, in the canton of Claret, is composed of a vein of an average thickness of 2 ft. 4 in., directed towards the north-east, and nearly vertical, enclosed in marl and calcareous of Jurassic earth; galena is found scattered in lumps in a gangue of spathic carbonated lime or ochreous clay; it is also found on the sides of the vein, and it is even in this position that the richest fragments are met with. This galena is usually small, and of a granular quality, very copper, and it contains '0014 per cent. of silver. The bearing was worked about 1790, and the purest part of the mineral was sold as black lead, notwithstanding its strength in silver; the remainder was treated for lead in the Curban Foundry. The Barles Mine, in the valley of the Besse, is composed of six veins, directed towards the north-north-west; enclosed in a quartz sandstone from the lower part of the lias, the thickness of some of the veins ranges from 8 in. to 3 ft. 4 in. The gangue is formed of sulphated barites, carbonated lime, and clayey matters. The lead mineral obtained embraces two varieties: one simply argentiferous, and the other argentiferous and antimonial, but both associated with indications of grey copper and other quantities of copper. We must refer to the subject on another occasion, but enough has been already cited to show what vast stores of dormant mineral wealth France possesses.

Very little activity has prevailed in the Paris copper market; there have been scarcely any transactions, but prices have remained without change. At Havre, some business has been done, but prices have experienced no material variation. A lot of Lake Superior has been dealt in at 100l. 12s. to 101l., as well as a lot of Chilean at 84l. 10s. At Hamburg the demand has been quiet, but prices have been tolerably firm. The article continues in good demand at Berlin, especially for consumption. The Cologne market has been rather feeble, but for tin has become more calm, the demand has fallen off, and prices are sustained with difficulty. Only a few small lots of Banca have changed hands at Amsterdam and Rotterdam at 76½ fl.; at this price there were still sellers. Former rates have been maintained at Paris, Banca being quoted 135l., Detroit 131l., and English 121l. The article has scarcely provoked any demand at Hamburg, nevertheless prices have been well sustained. At Berlin and Cologne it has been neglected. There is not much change to note in lead. The Paris market has been heavy at former rates, rough French being quoted 22½ fl., and Spanish 22½ fl. The quotation for Stolberg at Rotterdam has been 12½ fl. At Hamburg, prices have been sustained, but the demand has been rather feeble. Transactions have continued pretty regularly at Berlin, to meet the current requirements of consumption, and at Cologne the article has also been sustained at former rates. There has not been much doing in zinc at Paris; the quotation last noted for rough Spanish is 19l. per ton. At Hamburg, the article enjoys some favour, and holders have maintained firm at previously quoted rates. Affairs have presented little importance of secondary markets, and prices are generally nominal.

It was hoped that important contracts for rails which have been reported of late as having been concluded in Belgium would lead to a certain firmness in the course of merchants' irons, but this expectation has not been realised. The foremasters have been selling No. 1 at 6l. per ton, delivered on railway truck, and the margin between the numbers, which stood at 16s. per ton, has fallen to 12s. per ton. Pig has been selling easily at 3l. 14s. per ton for casting No. 5, and 3l. 3s. 4d. for refining. In the Charleroi group the blast-furnace of M. Cornil, at Marcinelle, is about to be re-lighted, and new rolling works for plate iron are about to be constructed at Montigny-sur-Sambre. Fine-grained irons are falling. Wood-produced pig is increasing every day in price in consequence of its scarcity, and of its being employed in the manufacture of cannon. At present, to meet all the demand of Belgium for this description of pig, only four small furnaces, with an annual fabrication of 1000 tons for each furnace, devote themselves to the production of the description of pig, which is quoted at 6l. per ton, delivered at Charleroi. This high price has attracted the attention of foremasters in the Duchy of Luxembourg, who have recently made offers at the rate of 5l. 12s. per ton, delivered at Charleroi. The Dolhain blast-furnace in the Liège metallurgical centre is about to be re-lighted. The Belgian construction workshops continue to extend their operations, and are increasing their connection abroad. Thus the Belgian Central Railway Plant Company, which has workshops at Nivelles and Morlanwelz, has just added to considerable orders received for Spanish lias from Ciudad-Real to Badajoz, and from Medina del Campo to Zamora, a contract for the building and rolling stock of the Vigo and Orense Railway, recently adjudicated to Madrid. This last-named section forms the head of an important line which, traversing Spain in its greatest breadth, will unite itself at Medina del Campo or Palencia with the Northern of Spain network. The Charleroi coal trade is in an unfavourable state, but rich coal for coke is sought after. Coke is also in good demand. An active competition is carried on among manufacturers of briquettes. In the district known as "Cochant de Mons" the closing of the navigation is attracting attention. The Minister of Public Works to close the canal from Gand to Ostend from the commencement of July 1st, 1863. The Tarnp Colliery Company has declared a dividend of 8s. per share.

In France, a feeling of deep consternation and sympathy has been excited by a terrible explosion of fire-damp in the Neuf and Charrins pits of the Grand Croix Mines, near Rive-de-Gier. The depth at which the miners were working at the spot (1000 ft.) obliges them to remain naked in the galleries, and the victims at the moment of the explosion were covered with a fine powder, which completely penetrated their skins, so that when brought up the corpses, 34 in number, were as completely black as if that had been their natural colour. A rigorous investigation has been commenced into the causes of this disaster, but as nearly all those in the mine were in the time of the explosion, the enquiry is attended with no little difficulty. A new colliery concession, has been just granted by Imperial decree in the western part of the coal basin of the Pas-de-Calais, to the north of the Lens and Batigny-Grenay concessions. The concession, which bears the name of Douvrin, formerly Hain-dun, has been granted in favour of MM. Laurent, Paternotte, Lorient-Lorient, and Guille-Imboud. So long since as March, 1859, this company had solicited a concession in the western portion of the basin, where it had effected considerable works, and



## MINING NOTABILLIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

**DRAKE WALLS** sold its March tin ore last Saturday, which realised 1600*l.*, and will leave fully 600*l.* profit on this month's working.

**EAST WHEAL ROSE.**—It will be remembered that nearly five years since this mine was abandoned, and the sixth dividend (2*l.* per share) from the sale of materials has just been declared.

**GREAT WHEAL ALFRED.**—The committee remitted to the shareholders yesterday cheques for the first distribution of 5*s.* per share from the sale of the machinery and materials.

**NORTH TREKERRY.**—A great improvement has taken place in the bottom part of this mine during the last week, and shares have been in demand in consequence. The 80*f.* level is worth 20*f.* per fathom, driving at 2*f.* per fathom; Highbarrow shaft worth 12*f.* per fathom; the 67 is worth 8*f.* per fathom. The discoveries from the bottom workings alone are equal to 375 tons per month, which is twice the quantity being shipped. The dividends are paid two-monthly; the last was 1*s.* 6*d.* per share, and in future they will no doubt be larger. This is unquestionably the cheapest dividend mine in the Redruth district.

**GURLYN.**—A great improvement is reported in this mine, at the 30*f.* level, east on Fox's lode. It appears they have been driving on by the side of the lode for the last 6*f.* m., and on taking it down on Tuesday last cut into a course of tin, worth nearly 30*f.* per fathom. The lode is said to be 4*f.* wide, and no south wall yet found. As the 20*f.* level, which is a great distance in advance of the 30, has passed through a productive lode, it is thought this improvement in the 30 is the commencement of a lasting course of tin.

**CORNUBA (TIN).**—This mine has much improved. See report in the usual column.

**EAST PROVIDENCE** is opening out a good mine.

**TYWANNHALE MINE** is much improved. The 80, east of Bennett's shaft, is looking well; also the lode in bottom of James's shaft. With careful management and economy, this mine must come into the dividend list.

A powerful company has been organised under favourable circumstances for working the lead and other minerals under the Broomfield Manor Estate, Salop, in conjunction with the Rotherington Hill property, adjoining.

**EAST CAMBRIAN GOLD MINING COMPANY.**—Besides the precious metal this company has very excellent prospects of developing a paying lead mine. It is not generally known that one of the lodes was worked many years since by means of a short adit level, and from the small quantity of ground taken away many tons of lead were sold, the last parcel, of nearly 50 tons, obtaining the high price of 27*l.* per ton, owing to the large quantity of gold contained in it. This company has now a lode cut to sink some 10*f.* deeper, and they will reach the junction of the two lodes cut through in the adit level, where there is every probability of coming upon a large deposit of lead. I do not think that many are aware of this fact, but I repeat the prospects for lead are truly excellent.

**EAST WHEAL FORTUNE (Sithney).**—This valuable sett has been taken up by an influential party, who have already commenced operations under the most favourable auspices. There are no less than six east and west lodes running through it, traversed by a main adit, which can all be intersected by a cross-cut from the main adit of about 50*f.* m. The adit is already driven about 45*f.* m., on a lode which has formed a junction with another lode north, worth at least 20*f.* per fathom, and on which little appears to have been done. Another lode has also been discovered south of the adit, worth 5*f.* per fathom. These lodes both unite in their course eastward with the other lodes, about 50*f.* m. east of the present adit end. The backs of these lodes have all been worked from surface 5 and 10*f.* m. deep by old tinners, and their explorations are the most extensive in this part of the county. The geological position of the sett is precisely analogous to Great Wheal Fortune and the rich Wheal Vor and Metal, and it is confidently believed by old miners in this district that East Wheal Fortune will be quite equal to them in depth.

**WHEAL SITHNEY AND CARMEL.**—Being in the neighbourhood of Great Wheal Fortune this week, I took the opportunity of enquiring into the reported recent discovery at Wheal Sithney, when I saw some of the tinstuff drawn up from the Boulder shaft, and found it of very rich quality, and precisely similar in appearance to the lode in Great Wheal Fortune, where they will return the greatest portion of their 130 tons of tin for this quarter; added to its exceeding proximity to the workings in that mine (for they are both so close as to seem one), there is not the least doubt in my mind that we shall speedily have a paying mine.

**ST. JUST UNITED MINES.**—The rapid progress making at these mines will, no doubt, soon place them in the dividend list. The report of the deputation, recently circulated amongst the proprietors, has given great satisfaction, and the appeal for sufficient additional capital to complete all the obligations necessary to carry out these great works upon a scale commensurate with their importance will, no doubt, be heartily responded to. The gigantic nature of the old workings at these mines, and the difficulty of obtaining any correct estimate of the capital that might be required to re-open these works, and adapt all the machinery for its completion, is quite obvious; however, the new estimate formed under more advantageous circumstances will, no doubt, be ample for all the purposes required, and will place the concern in a high position amongst the valuable mines in the district, more especially when the additional machinery proposed will enable the manager to open upon the copper lode, which gives indications of great value, a point the old workers had never prosecuted. We understand the old levels will be soon cleared of the slate, when new and rich tin ground will be laid open from seven or eight lodes. The returns of tin for the past month, mostly from the adit level by the old workers, will realise nearly 1000*l.*

**LANIVET TIN MINES.**—At Wheal Prosper, machinery is about to be put on, without any call on the shares, to realise at least 20 per cent. on the present price. Instead of paying dividends the company are erecting machinery as fast as they can, and in a very short time they will have stamps enough to profit 3000*l.* per annum, and as likely to last 100 years as 100 days; tribute, 2*s.* 6*d.* in 1*l.*—At EAST BEAM, the stuff is more per load than Wheal Prosper, but not so much water-power. It is calculated that sufficient could be put on to realise 15 per cent., or 8*l.* per share; present price, 5*l.* 10*s.*; present tribute, 12*s.* in 1*l.* These works are well worth the attention of capitalists. Almost the whole of these mines are held by Messrs. Whitford and Carter, of St. Columb, and Mr. E. G. Hamley, of Bodmin; and too much praise cannot be awarded those gentlemen for the excellent way in which the works are being carried on.

**WHEAL EMMA (Buckfastleigh).**—The new side lode is opening out well, and producing good copper ore. In the 70 west, in the cross-cut to the main lode, the prospects warrant the expectation of cutting it rich, which if realised this mine will take a higher position in the market than at any previous period, and will be a good copper mine in depth, in accordance with the views taken by Captain Charles Thomas, and other high authorities.

**PERRAN MINING COMPANY.**—A correspondent, writing from Marazion, alluded to this company now in course of formation as having one of the finest fields of operations in that district. It appears that a grant of a most valuable sett, adjoining Wheal Charlotte, has been secured, and in connection with it the several leases of the sett held by the late Trebarvah Company, in the parish of Perranuthnoe, near Marazion. This district ranks as one of the richest in Cornwall, and this company's grants hold a most prominent position, being bounded on the north by Great Neptune, which yielded returns amounting to nearly half a million sterling (the great cross-course which influenced the results of the property in that mine passing the Perran Company's ground), and on the west by Charlotte United, which has given returns of upwards of 150,000*l.* upon lodes which traverse this company's sett, whilst on the east adjoins Wheal Speedwell, which gave from these lodes returns of 170,000*l.*, and, in addition to being actually bounded by these mines, is adjacent to the rich prize mines of Great Wheal Fortune, Owen Veal, Wheal Jewell, Grylls, Toivadden, and others, whose authenticated returns amount to four millions. The great feature in the Perran Company's new grants is the whole ground south of Charlotte United, which is very valuable, inasmuch as the rich courses of ore in Charlotte United are within a few fathoms only of the boundary. The geological position of the property is altogether most favourable; the geological feature, too, is everything to be desired, the strata being clay-slate or kiln-slate, of a green very congenial for both tin and copper, and inexpensive to work. As one of the most legitimate affairs for the employment of capital, it is considered that this company will be a great success; and if anything beyond the excellent reports already obtained is necessary to give the company a proper reputation with the general public, it may certainly be found in the readiness with which many of the known mining men of the district have agreed to take shares, and the unusually fair terms upon which the property is conveyed to the company.

**EAST WHEAL MARTHA.**—Much interest has been excited in favour of this mine, in consequence of the important discoveries lately made in two mines in its immediate vicinity—in the New Wheal Martha, and the Great Devon Consols. It is proved that the effect of the vigorous operations now being carried on in New Wheal Martha is resulting in draining the shaft in this sett, showing the continuity of the rich lode running from one into the other. The relative position of East Wheal Martha with the New Wheal Martha and the Great Devon Consols is highly favourable, lying, as it does, east of one and west of the other. There is little doubt important discoveries will shortly be made here, which will place the sett in the proud position of its immediate neighbours. It is now going through the phases others have undergone, and will ultimately come out equally safe and profitable. [Mr. James Wright, the efficient manager of New Wheal Martha, has been appointed a director in the New Wheal Martha, which augurs well for the mine.]

**WHEAL CREBOR.**—On taking down the lode in the shaft it is found to be worth fully 10 tons of rich ore per fathom. This is the greatest discovery that has been made in this district (Devon Consols) for many years.

**EAST ROSEWARNE** is opening very rich; the lode in the shaft is improving, and the 65 and west is worth 20*f.* per fathom (very important). The present sampling, 113 tons of rich quality ore.

**MINING IN THE COUNTY OF CORK.**—The south-western part of this county has for years past formed an interesting theme for the practical and scientific miner; and so varied have been the opinions that the speculator and investor have been puzzled as to the course which they should pursue, and many have sacrificed their interest from sheer bewilderment, amidst a throng of advisers that are too ignorant to understand or advise on matters beneath the surface; and had only one-tenth of the amount of faith been brought to bear upon these interesting undertakings that is usual for Cornish adventurers to command, perseverance would have been crowned with success long since. The results of the past few years clearly indicate that the mineral riches of this district are about to be uncovered, and laid bare before the public eye. A few pioneering adventurers, whose determination and energies are worthy of all praise, have reached the point where success has crowned their efforts. At Cappagh a rich discovery may be seen, a sight worthy of a miner's glance, a pile of rich purple and yellow copper ore from the 80*f.* level, that will bear comparison with any production of the same nature in England or any part of the globe. A discovery of almost the same character was some time since made at Ballycunniff, and has been found to hold down 144*f.* m. At the Schull Bay Mines similar results have been tested. At the Crookhaven Mines the deputation that has recently visited these works, having witnessed the triumphant success at Cappagh by sinking to 80*f.* m., where the purple ore peculiar to the district is found as rich as at 10*f.* m., have recommended that the fine purple lode, which was found so rich at 7*f.* m., should be opened upon, and all the levels from the shaft be driven to the point of intersection, the result of which it is more than probable will be of immense importance to the success of this undertaking. This recommendation is founded upon the opinions of four practical miners, well acquainted with Irish mining, and this district in particular. The theory of several of our learned geologists that the purple ore would not hold down has been completely overturned by practical results at Cappagh. The new mine recently opened at Schull, which is in the same run of lodes, shows all the indications of a rich mine in depth, similar in character to its neighbour. The deputation has also visited this mine, and obtained from the lodes recently opened the rich purple and strong copper ore that characterises the district. These indications and practical results cannot fail to attract the attention of mining engineers. Here is, beyond all doubt, a rich field for mining enterprise. The pioneers have tested this fact, and we hope in future to see a golden harvest reaped here.

a shaft on the territory of the commune of Halesme, near the road from Arras to Lille. After difficulties of all kinds, the question of public utility has been submitted to the Council of State, which has decided in favour of the Douvrin Company. The concession comprises, we believe, five veins, all workable, and yielding a coal equal in quality to that of neighbouring concessions. Proposals have been made for amalgamating the Douvrin and Bally-Grenay Coal Companies, but the scheme has been rejected at general meetings held to consider the subject. In the works of shaft No. 2 of the Douvrin Company, at Bally-Grenay, a bed of Cannel coal, 24 in. in thickness, has just been re-cut. It is remarked by the *Journal des Mines* that the basin of the Pas-de-Calais will now have nothing more to envy of the rich coal basins of England, since, like these last, it comprises all descriptions of coal, from ordinary to Cannel. There is abundant room for further discoveries and workings, for it is calculated that France still pays 4,800,000*l.* per annum for foreign combustible. The consumption of coal in France amounted, in 1850, to only 5,000,000 tons; but, in 1861—as rapid was the progress of industry and wealth during the eleven intervening years—this consumption had risen to 10,000,000 tons, showing an augmentation at the average rate of 1,000,000 tons per annum. The Imperial Marine has made extensive purchases with the coal of the Pas-de-Calais, and found it equal to the best Newcastle qualities; it now finds its supplies in a great measure in the Pas-de-Calais and the Seine-et-Loire for Cherbourg, Brest, and Lorient; and it would take them entirely from the first of these departments, which is the most favourable situated, if it received offers from companies. It is expected that the basin of the Pas-de-Calais, which is in the immediate neighbourhood of the sea, will soon furnish not only the Imperial Marine, but also all the French maritime towns, when the canals which run from Béhune and the neighbourhood of Lens for Dunkerque, Calais, and Gravelines have been deepened, as they easily can be, so as to be accessible to coasting vessels. At Paris, it is remarked that coke-produced iron is now nearly entirely substituted for that made with wood, a state of things easily to be foreseen, as there is a large difference between the prices of the two descriptions. Thus, the iron of the Champagne works is held at 9*l.* 4*s.* per ton at the works, and it is difficult to imagine that the trade will supply itself from that direction, when coke establishments offer their products at 8*l.* 8*s.* at the nearest railway station, or 8*l.* 12*s.* per ton delivered *a domicile*. The traders content themselves with a profit of 8*s.* per ton, and sell at 9*l.* per ton; besides, they make "bonifications" in large transactions. In consequence of new conventions concluded between the State and the great railway companies, an active demand is anticipated for rails, and it is stated that it is the intention of the directors of the companies to appeal for the assistance of foreign producers as well as national industrialists, disposed to adopt a system, leaving the foremaster at liberty in his fabrication, and will exercise no control in the works; but they will be severe as regards the quality of the articles delivered, and will extend the duration of the guarantee required.

## TRUTH'S ECHOES, OR SAYINGS AND DOINGS IN MINING.

The Mining Share Market has been less active during the week, and although the usual fortnightly settlement was held on Wednesday, when shares generally evince more firmness, a great decline took place in almost all the leading stocks. The account passed off most satisfactory until the following day, when a defaulter was found to rather a large amount, resulting in his expulsion from the Mining Exchange. There was a scarcity of CHEBROK and EAST CARADONS. The usual half-yearly holiday in the Stock Exchange took place to-day (Friday), consequent on the closing of the transfer offices in the City of London, the purpose of balancing the half-yearly accounts, which circumstance, together with the account, and a further decline in the standard for copper ore, have had a tendency to lessen the operations in the Mining Market.

WHEAL SITHNEY have been in great request at advanced prices, arising from a reported improvement in the mine.—COPPER HILL and WEST SITHNEY have been rather quiet.—EAST BARRETS have had several advances during the week, and continue in demand.—TINCROFT and SOUTH FRANCES have been more enquired for, the former at slightly improved rates.—CLIFFORD, EAST CARN BREA, COOK'S KITCHEN, GREAT SOUTH TOLGUS, and SOUTH CARN BREA have been dealt in, with slight fluctuations.—EAST GRENVILLE, WEST GRENVILLE, DEXY, and UNGWEN have been done at lower rates.—NORTH ROSEBAR and ROSEBAR have considerably declined, and show evidence of further weakness.—NORTH BASSET and NORTH BULLER are offered at lower prices.—NORTH DOWNS, NORTH TREKERRY, and NORTH CROFT have been dealt in at minimum quotations.—SOUTH CROFTS are less firm.—EAST ROSEWARNE, WHEAL HARRIETT, and WHEAL KITTY (St. Agnes) are in good request at higher rates, with prospects of a further rise.—WHEAL MARGARETS are offered lower.—PROVIDENCE shares have been done at higher figures, and WHEAL GRYLLS continue firm.—BASSET and GRYLLS are more in request, and have slightly advanced.—SITHNEY, CARMEL, WENDRON CONSOLS, and GREAT WHEAL FORTUNE have been done at lower rates.—EAST PROVIDENCE and EAST WHEAL LOVELL are in fair demand, and scarce at buyers' prices.—SOUTH CARADONS continue in request.—EAST CARADONS have fluctuated, and left off lower.—WEST CARADON and MARKE VALLEY have receded.—GLASGOW CARADONS found buyers at minimum quotations.—MARY ANN and TRELAVAL are firmer, being more enquired for.—BEDFORD UNITED, KINGSTON DOWNS, and DRAKEWALLS have been done at quoted prices.—CHEBROK are eagerly sought for, and at advanced rates.—WHEAL EDWARDS have improved, and in fair demand.—LADY BERTHA, EAST RUSSELL, and SOUTHERN CONSOLS have changed hands at minimum figures.

At EAST CARADON, the counter lode in the 50 east is worth from 15*f.* to 20*f.* per fathom, the 60 east, 45*f.* In cross-cutting the lode in the 58 cross-cut is reported to be about 2*f.* feet, for this distance it is worth 20*f.* per fathom; the 70 east is worth 45*f.*; the 70 west, 55*f.*—New Lode: The 70 east, 12*f.*; the 70 west, 10*f.* per fathom.

DRAKE WALLS is represented to have very much improved in several important places, and the ground west opening out much more favourably than anticipated. They have a good and improving lode in the 40 and 50 west, and several points in the eastern levels are looking more encouraging. The 70 cross-cut north is expected to be close upon the north copper lode, where some discovery is fully anticipated: 25 tons of black tin were sold on Saturday last, realising 1750*l.*

EAST JANE meeting was held on Thursday, when a call of 5*s.* 6*d.* per share was made. The report presented by Capt. Secombe was considered very satisfactory and encouraging. Mr. W. W. Mansell resigned the secretaryship.—SOUTH JANE, immediately adjoining the foregoing, is about to be recommended under a more efficient and influential company. The able services of Capt. James Secombe, of East Phoenix, East Jane, and other mines, has been appointed the managing agent, and it is to be hoped that his usual and well-known energies will soon bring the mine into a prominent and productive position.—WHEAL EMMA continues to progress very satisfactorily, and there are several important points to be considered, which, if secured, will place the mine in a most commanding position. The new lode intersected in the 58 cross-cut is reported to be looking very promising for further improvement; they have opened a short distance both east and west, with very cheering prospects.—At WHEAL HARRIETT, the copper lode in Alexander's shaft continues the same; the 12 east is valued at 8*f.* per fathom, and the slopes in the adit will average about the same. The 130 is poor for tin; the winze below the 115 is worth 10*f.*; the lode in the slope west of the east winze is valued at 70*f.* per fathom. The slope east of the eastern winze is worth 15*f.* per fathom, and the cross-cut north of the 115 is in more favourable ground, and presumed to be near the lode.

EAST PROVIDENCE: The recent discovery in the 50 east is a good one, and, from present indications, there is every probability of opening up a long and profitable run of ore ground. The work is good, and presents every appearance of a lasting character. The proximity of the mine to Providence, with the valuable run of ore ground laid open there, is a very favourable feature in the future of this mine.—WHEAL REETH is represented to have improved in the 180 east, where they have a good course of tin. Several improvements have taken place within the last few months, and, although deep, will no doubt keep the mine in active operation for years to come, although 12 or 18 months since its appearance were of a very unfavourable character.

ST. JUST UNITED: The general accounts have been received from this mine corroborate all that has been officially stated, and there is little doubt but that in the course of a few months, when the whole of the former workings have been fully cleared up, and operations renewed in that part of the mine, immense quantities of tinstuff can be brought to surface at a small expense. The engine-shaft will be in for to the bottom level by the end of this week, which will enable them to examine three lodes, which so far as they have been seen are highly productive; and by the end of June a vast length of tin ground will be laid open.—ST. JUST CONSOLS: The surface operations are going on vigorously and satisfactorily, and in clearing up the old levels they find large and highly productive lodes, and, from what has been taken away, and the appearance of what is left standing, there is every reason to anticipate early and continuous sales of tin; indeed, the prospects are by no means inferior to those at St. Just United, with the advantage of being worked extensively by water-power.

By a gentleman who has recently visited Ireland I am informed that the prospects at ROADING WATER continue most encouraging. They have commenced a shaft on the Orchard lode to communicate with the adit, at which point they have some good ore, and expect to open some profitable ground. The adit, which has been driven a great length, has laid open several lodes, and operations are about to commence on the Orchard lode. At BALLYCUNIFF they have a course of ore from the 80 to the 120*f.* level, and the mine generally looking well for a productive and permanent one.—At CAPPAGH they recently intersected a rich course of ore in the 84 cross-cut, which continues to hold.—At SCHULL BAY they are looking most encouraging, several important discoveries having been recently made.

WEST DEVON CONSOLS: The directors, in accordance with their faith in the value and importance of this property, have determined to direct their attention to the complete development of several essential points among the numerous resources of the sett, which have hitherto been deferred until they have decided on the most effectual plan for the application of increased capital. They have during the last week engaged the services of Capt. James Secombe, of East Phoenix, who after fully inspecting the underground operations, as well as the bearing of the West Maria and Portescue rich lodes, felt satisfied that the same lode traverses the north part of West Devon. It is more than probable that the north lode, where the engine-shaft has been sunk and worked to so me extent many years since, and from whence upwards of 250 tons of copper ore were raised long before the discovery at Devon Consols which first gave it the celebrity it now enjoys, and although the operations there were suspended for more effectively developing the south or Devon Consols lode, there appears but little doubt that if the north lode were drained and fairly developed the lode which proved the commencement of the riches of Devon Consols, and now found in West Maria, will be discovered productive in West Devon Consols. Capt. Secombe considers the south or Devon Consols lode a very promising one, and from its general character strongly recommends it being fully opened, on feeling confident as to the future success; this lode, which has been sunk to the 50, has proved larger and of more importance every way in going down. There are several other points to which attention is being drawn, which when completed will put the mine in an excellent position. The directors have determined on the issue of 10,000 shares at 10*s.* per share, which are to be considered equal to the 20*s.* shares paid up. That a deposit of 5*s.* per share shall be paid on application, and the remaining 5*s.* as required. There have been 2000 applications, and the remainder is expected to go off immediately, as the prospects of the mine, with steam-engine, and all necessary machinery, being in full operation, render the opportunity of more than ordinary character. Applications can be made at the office, or to

JAMES LANE.

CURE OF TWENTY YEARS' ASTHMA BY DR. LOCOCK'S PULMONIC WATER.—From Mr. R. Bagley, bookseller, Ironmonger-street, Stamford:—"A gentleman in Stamford has experienced the most wonderful benefit in an obstinate asthma, with which he has been troubled for the last 20 years." Dr. Locock's waters give instant relief of asthma, consumption, coughs, and all disorders of the breath and lungs. They have a pleasant taste. Price 1*s.* 1*d.* and 2*s.* 6*d.* per box. Sold by all druggists.

HOLLOWAY'S OINTMENT AND PILLS—INDISPENSIBLE REMEDIES FOR RASH LEGS, OLD WOUNDS, SORES, AND ULCERS.—If used according to directions given with them, there is no wound, burn, leg, sore, or bad breast, however obstinate or long standing, but will yield to their healing and curative properties. Numbers of persons who have been pained in several of the large hospitals, and under the care of eminent surgeons, without deriving the slightest benefit, have been thoroughly cured by Holloway's ointment and pills. For glandular swellings, tumours, scurvy, and diseases of the skin, there is no medicine that can be used with so good an effect. In fact, in the worst forms of disease dependent upon the condition of the blood, these medicines are irresistible.

At an EXTRAORDINARY GENERAL MEETING of the shareholders in this company, held on the 31st April, 1863, it was resolved to create £20,000 of debentures, of £50 each, for five years, bearing interest at the rate of 5 per cent. per annum, free of income tax, payable half-yearly, and be a first charge on the company's extensive and valuable freehold property. It has also been resolved to issue only £10,000 for the present, and of this sum £4000 is already subscribed for.

The directors are prepared to receive applications for the balance of these debentures, and forms of application for the same, together with further information, can be obtained at the office of the company, 117, Bishopsgate-street Within, London, E.C.

**ASSAYS AND ANALYSES OF ORES, METALS, MANURES, &c.** on the most moderate terms, and with the utmost accuracy. List of fees per post on application. JOHN LONGMAID, CITY LABORATORY AND ASSAY OFFICE, 31, THERMOMETER STREET, E.C.

## India Office.

BY ORDER OF THE SECRETARY OF STATE FOR INDIA  
IN COUNCIL, notice is hereby given that the DIRECTOR-GENERAL OF STORES FOR INDIA will be READY, on or before MONDAY, the 4th May next, to RECEIVE PROPOSALS in writing, sealed up, from such persons as may be willing to SUPPLY—  
SLIP COFFER.

And that the conditions of the said contract may be had on application at the Indian Store Office, Cannon-row, Westminster, where the proposals are to be left any time before Two o'clock p.m. of the said 4th day of May, 1863, after which no tender will be received.  
GERALD C. TALBOT, Director-General.  
India Office, April 25, 1863.

## Mersey Docks and Harbour Board.

**TENDERS FOR MOORINGS FOR LIGHTSHIPS.**—The Mersey Docks and Harbour Board are READY TO RECEIVE TENDERS for the SUPPLY of ONE HUNDRED AND EIGHTY FATHOMS of superior CHAIN for LIGHTSHIP MOORINGS. Specifications for the manufacture of the chain may be had on application at the Marine Surveyor's office.

Tenders must be sealed, and endorsed "Tenders for Moorings for Lightships," addressed to the Chairman of the Committee for the Marine Department, and sent, under cover to the secretary of the board, not later than noon of Monday, the 4th of May, 1863. The Board do not engage to accept the lowest or any tender.  
Dock Office, Liverpool, April 23, 1863. By order, JOHN HARRISON, Sec.

## Tenders for Coal.

**WANTED.**—The Directors of the TALARGOCH MINING COMPANY (LIMITED), DYSETH, near RHIL, are READY TO RECEIVE TENDERS for the SUPPLY of not less than ONE HUNDRED AND THIRTY TONS of COAL WEEKLY for TWELVE MONTHS, to commence from the 1st June next.—Tenders to be addressed to the mine, by Wednesday, the 20th May, 1863.—Talargoch, April 20, 1863.

**WANTED, A QUANTITY OF WOOD PAVEMENT.**—Apply by letter, stating lowest price, to W. H. JEO, DAWES, MILLON and ELISCAR Ironworks, near Barnsley.

**A GENTLEMAN in the MINING ENGINEERING PROFESSION** is at present OPEN TO RECEIVE ONE or TWO ARTICLES PUPILS, where they would have every opportunity of gaining experience in the viewing, surveying, and valuing coal and lead mines in Wales.—Apply to Messrs. L. and J. ALLINGTON HUGHES, solicitors, Wrexham.

**TO IRONMASTERS.**—WANTED by the advertiser, a SITUATION as BLAST FURNACE MANAGER. Has had considerable experience in the manufacture of hot and cold-blast iron, and has served in the above capacity for the term of thirteen years, in an extensive ironworks.—Apply by letter, to "Cambria," MINING JOURNAL OFFICE, 26, Fleet-street, London, E.C.

**TO IRONMASTERS.**—AN EXPERIENCED PERSON, of 26 years' practice in the MANUFACTURE of IRON in MILLS and FORGES, and who has had the management of several works, WANTS a SITUATION. Testimonials of the highest character can be given, and references to late employers.—Address, "E. P.," MINING JOURNAL OFFICE, 26, Fleet-street, London, E.C.

## TO CAPITALISTS.

**CLEVELAND BLAST FURNACES.**—The ADVERTISER DESIRES the CO-OPERATION of a FEW GENTLEMEN to JOIN in the ERECTION of FURNACES on a most ELIGIBLE FREEHOLD ESTATE, commanding 16*f.* of the valuable CLEVELAND BANDS of IRONSTONE. Arrangements have been made for the purchase, by which the stone stands at the minimum of 5*s.* per ton only, and with practical gentlemen and one-half the requisite capital. The furnaces being on the top of the stone itself, abundant water and slag deposit ground on the estate, coals, coal, and limestone at the minimum rate of the district, the Yorkshire and Cleveland Railway, and a station in front of the pig beds, &c., present a combination for economic production not to be excelled.—Address, "H. C.," MINING JOURNAL OFFICE, 26, Fleet-street, London, E.C.

## TO ENGINEERS, COLLIERY OWNERS, AND OTHERS.

**POW AND FAWCUS, CHAIN MANUFACTURERS, ANCHORSMITHS, and FOUNDERS,** at NORTH SHIELDS IRONWORKS, beg to inform their friends and the public that they have taken, in addition to their works at North Shields, WILKINSON ROLLING MILL and SWALLOW IRONWORKS, lately occupied by the old established firm of CROWLEY, MILLINGTON, and CO., where they intend to make iron, steel forgings, castings, and the various other articles manufactured by the late firm. They expect, by employing first-rate workmen, and by paying particular attention to the quality of the goods manufactured, to keep up the good reputation enjoyed by their predecessors.—North Shields, May 1, 1863.

**METAL TUBES AND CYLINDERS.**—The ADVERTISER has COMPLETED an IMPROVEMENT in MACHINERY for MANUFACTURE of SAME, which is protected at home and abroad. He is now DESIROUS of JOINING with a CAPITALIST to FURTHER the UNDERTAKING, which promises to be a valuable one. A machine is ready for view.—Apply to JNO. KENDRICK, 20, Easy-row, Birmingham.

**HEMATITE IRON ORE.**—FOR DISPOSAL, an IRON MINE, containing a LARGE DEPOSIT of RED HEMATITE ORE, which has been recently laid open. The ore yields from 50 to 60 per cent. of metal, and is free from sulphur or spar. An outlay of about £500 is wanted to lay the mine open, so as to yield from 1500 to 2000 tons of ore per month. The cost of getting the ore is about 1*s.* per ton, and carriage to port is 6*d.* per ton. Any person with £2000 at command may have immediate possession.—Principals or their solicitors may address "F. Q.," MINING JOURNAL OFFICE, 26, Fleet-street, London, E.C.

**CARBONATE OF BARYTES.**—TO BE SOLD, about TWENTY TONS, at 20*s.* per ton, delivered into trucks at Alston station, Cumberland.—Apply to JOHN GIBBELL and CO., Mining Offices, Corn Exchange, Leeds.

**TO BE SOLD, BY PRIVATE TREATY,** a small FREEHOLD PROPERTY, with the MINERALS thereunder, situate in TRYDDYN, near MOLD, NORTH WALES. The coal seams of the district have been proved by boring, and the Cannel is being worked at an adjoining colliery. Any quantity of adjacent land can be had on lease, and railway communication is nearly complete to the Mold branch.—Apply to T. L. COTTINGHAM, Mold.

**FOR SALE,** a 10 horse PORTABLE ENGINE, on wheels, nearly new, suitable for mining purposes; cylinder 10 in. diameter, 3*f.* stroke; very strong BOILER, with return flue, 4*f.* diameter, and 15*f.* long.—To be seen at Messrs. RICHARDS and CO.'s premises, Old Barge House-street, Upper Ground-street, Blackfriars-road, London, of whom particulars can be had.

**TO CAPITALISTS—PROFITABLE EMPLOYMENT OF CAPITAL IN WESTPHALIAN COAL PITS.**—There are at present FOUR COAL FIELDS FOR SALE in the immediate neighbourhood of some of the most famous pits in Westphalia, by which their condition, with regard to depth and thickness of the seams, has been ascertained as accurately as possible. They are traversed by railways and high roads, and quite close to a navigable tributary of the Rhine, and, according to technical calculations, to a depth of 100 fathoms, 80,000,000 secker, or 4,000,000 tons, of coal, and the same quantity would be produced from each following 100 fathoms. The coal fields extend over a mining area of about 1616 Prussian morgen, or about 1000 acres English.

The coals are of excellent quality, and not only fit for coaling, but also for house and steam coals.

The working expenses have been calculated upon the highest scale that would under any consideration be paid, and the returns have been estimated upon the price which the coal would fetch under present unfavourable circumstances, yet the receipts would exceed the outlay by from 35 to 50 per cent.

The price demanded for the coal is very small, and a profit of from 15 to 20 per cent. per annum could be realised upon the entire necessary outlay, both for purchase money and working capital.

The coal market is not very lively at present, but a glance at the already finished and newly-projected railways in that district will at once convince the most doubtful that the demand for Westphalian coals will have many fold increased until the time the pit will be in working order. There are also numerous iron-foundries and similar establishments springing up in that district, which of course will operate favourably upon the coal market.

Applications addressed to "Westphalian Coal Mines," MINING JOURNAL OFFICE, 26, Fleet-street, London, E.C., will be promptly replied to, with full particulars.

**THE SOUTH FOXDALE SILVER-LEAD MINING COMPANY (LIMITED), ISLE OF MAN,** are PREPARED TO RECEIVE APPLICATIONS for the UNALLOTTED PORTION of the shares, for extending the works, and for immediately bringing the ore to market, they having opened upon a rich lode. The ore per assay yields 35 ozs. of silver to the ton.—Applications to be made to the secretary, Mr. EDWARDS, 15, Union-court, Old Broad-street, London, E.C., from whom further particulars and reports may be obtained, and samples seen.

## SIX PER CENT. DEBENTURES.

**THE GREAT BARRIER LAND, HARBOUR, AND MINING COMPANY (LIMITED).**  
In 10,000 shares of £5 each. (£4 10*s.* per share called up on 8000 shares, and 2000 shares reserved, to be issued to the vendors as the third instalment of the purchase money, after 20 per cent. on the paid-up capital shall have been distributed to the shareholders within any two consecutive years).

DIRECTORS.  
Colonel JOHN BAZALGETTE, 28, Strand-square, Regent's-park.  
MICHAEL HALL, Esq., 20, East India Chambers, Leadenhall-street.  
THOMAS MOXON, Esq., 29, Throgmorton-street, and Stock Exchange.  
PARKER PITTAR, Esq. (Messrs. P. Pittar and Co.), 36, Gresham-street.  
PHILIP WRIGHT, Esq., 30, Adelaide-road North, and of Auckland, New Zealand.  
SOLICITORS—Messrs. Bischoff, Cox, and Bompas, 19, Coleman-street.  
BANKERS—The Bank of London, Threadneedle-street.

At an EXTRAORDINARY GENERAL MEETING of the shareholders in this company, held on the 31st April, 1863, it was resolved to create £20,000 of debentures, of £50 each, for five years, bearing interest at the rate of 5 per cent. per annum, free of income tax, payable half-yearly, and be a first charge on the company's extensive and valuable freehold property. It has also been resolved to issue only £10,000 for the present, and of this sum £4000 is already subscribed for.

The directors are prepared to receive applications for the balance of these debentures, and forms of application for the same, together with further information, can be obtained at the office of the company, 117, Bishopsg







## International Exhibition, 1862.

CLASS IX.—PRIZE MEDAL FOR AGRICULTURAL PORTABLE STEAM ENGINES AND MACHINERY.  
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For "Good arrangement, good workmanship, and practical success."

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ENGINEERS.

MANUFACTURERS OF PORTABLE AND FIXED STEAM ENGINES, MACHINERY FOR PUMPING, HOISTING, GRINDING, SAWING, AND AGRICULTURAL PURPOSES, &c., adapted for any part of the world.

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ENGINES AND LOCOMOTIVES FOR MINERAL RAILWAYS.  
For prices, illustrated description, and testimonials, apply to Aveling and Porter, engineers, Rochester, Kent.

Tavistock Ironworks, Devon.—(Established 1804.)

**GILL AND CO., ENGINEERS AND IRONFOUNDERS.**  
MANUFACTURERS OF STEAM ENGINES AND BOILERS. CHAINS OF DIMENSIONS. STEELED SHOVELS to any pattern. EVERY DESCRIPTION OF CAST AND HAMMERED IRON FOR MINING, MANUFACTURING, AND AGRICULTURAL PURPOSES. EDGE TOOL MANUFACTORY.

FOREIGN MINES SUPPLIED ON LIBERAL TERMS.

VARIOUS DESCRIPTIONS OF SECOND-HAND MACHINERY

CONSTANTLY ON HAND.

N.B.—AGENTS for TANGY'S PATENT HYDRAULIC LIFTING JACK, and WESTON'S PATENT DIFFERENTIAL PULLEY BLOCKS.

To Silver and Gold Miners.

**THE CONCENTRIC BELL AMALGAMATING AND**  
WASHING MACHINE.

**WILLIAM REAY, JR.**, has the honour to inform his friends and the mining public that he has recently patented, under the above name, a perfectly NEW DESCRIPTION OF MACHINE FOR AMALGAMATING GOLD AND SILVER ORES, and for SEPARATING the GLOBULES OF QUICKSILVER AND AMALGAM, which remain in the residues from other systems of amalgamation.

One of these small machines, of 4 ft. 6 in. (outer bell) diameter, will easily amalgamate 6 to 8 tons of ore (in bulk) per day, with less than 1 horse power; and, if placed below a circular battery of stamps of six heads, could be worked by the same spindle, and amalgamate all the pulverised ore thence proceeding.

The gold is first forced through a column of 6 in. of mercury; then, if not absorbed, it is gently rubbed by the floating balls, and, thus cleaned, passes through three columns of mercury of 2 inches each, before it can escape from the apparatus, in which upwards of 15,000 square feet of cleaned mercury are displaced per minute, over and through which the 6 to 7 lbs. of ore per minute have to pass.

Parties desirous of availing themselves of this machine will meet with prompt attention by addressing their letters to Wm. Reay, Junr., Thropton Hill, Rothbury, Northumberland; or to him, care of W. S. Holt, Esq., Marine Brewery, Ratcliffe-croft, London, E.—April 27, 1863.

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TWO THOUSAND SPECIMENS, illustrating the application (ornamental and useful) of these interesting new metals, are now on view at—  
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Admission by card.

**PATENT SAFETY FUSE.—THE GREAT EXHIBITION PRIZE**

MEDAL WAS AWARDED TO THE MANUFACTURERS OF THE ORIGINAL SAFETY FUSE, BICKFORD, SMITH DAVEY, and PRYOR who beg to inform Merchants, Mine Agents, Railway Contractors, and all persons engaged in Blasting Operations that, for the purpose of protecting the public in the use of a genuine article, the PATENT SAFETY FUSE has now a thread wrought into its centre, which, being patent right, infallibly distinguishes it from all imitations, and ensures the continuity of the gunpowder. This Fuse is protected by a second Patent, is manufactured by greatly improved machinery, and may be had of any length and size, and adapted to every climate.

Address.—RICKFORD, SMITH, DAVEY, and PRYOR, Tuckermill, Cornwall.

**SAFETY FUSE.—Messrs. WILLIAM BRUNTON AND CO.**  
PENHALICK, POOL, near CAMBORNE, CORNWALL, and BRYMBO, near WREXHAM, MANUFACTURERS OF FUSE, of every size and length, as exhibited in the Great Exhibition of 1861, and supplied to the Royal Arsenal at Woolwich, the Arctic Expedition, and every part of the globe.

For the convenience of their customers and others in the North, W. Brunton and Co. have recently erected a branch manufactory at Brymbo, near Wrexham, where, as at Cornwall, they are at all times PREPARED TO EXECUTE UNLIMITED ORDERS for SUPPLYING FUSE upon warrant that it will prove equal to, if not better than any to be procured elsewhere.

WASTE NO OIL.

**STRONG IRON OIL CISTERNS,**

NOT LIABLE TO LEAK, and ECONOMISE SPACE in the STORES:—

500 gallons	48 x 84	£10 10 0	75 gallons	48 x 42	£ 8 15 0
400	48 x 72	9 10 0	60	48 x 36	8 10 0
300	48 x 60	7 10 0	45	48 x 30	7 10 0
200	48 x 48	6 10 0	30	48 x 24	6 10 0
150	48 x 36	5 10 0	22 1/2	48 x 21	5 10 0
100	48 x 24	4 10 0	15	48 x 18	4 10 0

STRONG IRON BUCKETS:—

2 1/2 gallons	48 x 64	5s. 6d.	3 1/2 gallons	58 x 64	5s. 6d.
1 1/2	48 x 52	5s. 0d.	2 1/2	58 x 52	5s. 0d.

WAGON GREASE, in 4s. and 8 cwt. casks.

TURPENTINE SUBSTITUTE, in 4s. per gallon, in 30-gallon casks.

TO IRON AND COAL MASTERS, &c.

**IMPROVED BLACK VARNISH,**

FOR PREVENTING IRON FROM RUST, AND WOOD FROM DECAY.

A brilliant jet black, superior to paint in appearance, dries in less time, contains preventive qualities of the best description, and is economical in its use: one gallon at 1s. is equal to 14 lbs. of paint, which costs 4s.

For COLLIERIES, HEAD CHAMBERS, RAILWAY WAGONS, BOILERS, CASTINGS, CANAL BOATS, &c., it is especially adapted. In casks containing 10, 15, and 20 cwt. each. In quantities of 1 ton and upwards, price £11 per ton.

GLOVER AND CO.,

No. 40 MANESTY LANE, LIVERPOOL.

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APPARATUS FOR RAISING WATER ECONOMICALLY, ESPECIALLY

APPLICABLE TO ALL KINDS OF MINES, DRAINAGE, WELLS, MARINE, FIRE, &c.

J. U. BASTIER begs to call the attention of proprietors of mines, engineers, architects, armers, and the public in general, to his new pump, the cheapest and most efficient ever introduced to public notice. The principle of this new pump is simple and effective, and its action is so arranged that accidental breakage is impossible. It occupies less space than any other kind of pump in use, does not interfere with the working of the shafts, and unites lightness with a degree of durability almost imperishable. By means of this hydraulic machine water can be raised economically from wells of any depth; it can be worked either by steam-engine or any other motive power, by quick or slow motion.

The following statement presents some of the results obtained by this hydraulic machine, as daily demonstrated by many of the most eminent engineers.

1.—It utilizes from 90 to 92 per cent. of the motive power.

2.—Its price and expense of installation is 75 per cent. less than the usual pumps employed for mining purposes.

3.—It occupies a very small space.

4.—It raises water from any depth with the same facility and economy.

5.—It raises with the water, and without the slightest injury to the apparatus, sand, mud, wood, stone, and every object of a smaller diameter than its tube.

6.—It is easily removed, and requires no cleaning or attention.

A mining pump can be seen daily at work, at Wharfedale Mining Co., South Sydenham, Devon, near Tavistock; and a lifting pump at Woodside Graving Dock Company (Limited), Birkenhead, near Liverpool.

J. U. BASTIER, sole manufacturer, will CONTRACT TO ERECT HIS PATENT PUMP AT HIS OWN EXPENSE, and will GUARANTEE IT FOR ONE YEAR, or will GRANT LICENSES to manufacturers, mining proprietors, and others, for the USE of his INVENTION.

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London, March 21, 1863. Hours from Ten till Four. J. U. BASTIER, &c.

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MANUFACTURE, SCIENCE AND THE ARTS.

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Capitalists who seek safe and profitable investments, free from risk, should act only upon the soundest information. The market prices for the day are for the most part governed by the immediate supply and demand, and the operations of speculators, without reference to the bona fide merits of the property. Railways depend upon the traffic, expenditure, and capital accounts, the probabilities of alliance or competition with neighbouring companies, the creation of new shares, the state of the money market as affecting the renewal of debentures, and other considerations founded on data to which those only can have access who give special attention to the subject. Mines afford a wider range for profit than any other public securities. The best are free from debt, have large reserves, and pay dividends bi-monthly varying from £15 to £25 per cent. per annum. But the class of security more than any other, should be purchased only upon the most reliable information. The undersigned devote special attention to railways and mines, afford every information, experience in mining purchases justifies us in offering our advice to the uninitiated in order for 5s., the names of six dividend and six progressive companies that we will, in our opinion, well repay capitalists for money employed.

Messrs. TREDNICK AND CO., STOCK AND SHAREBROKERS, and D. EALLES

in BRITISH MINING SHARES, 78, LOMBARD STREET, E.C.

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COUNTIES ADVERTISER. (ESTABLISHED 1764).

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BY HER MAJESTY'S ROYAL LETTERS PATENT.

**G E O R G E S P I L L & C O ' S I M P R O V E D M A C H I N E R Y B E L T I N G .**

WARRANTED NOT AFFECTED BY HEAT, WATER, OR GREASE, AND MADE TO ANY LENGTH IN ONE PIECE.

PRICES PER FOOT RUN.

Inches wide.	1	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	7	8	9	10	11	12
No. 1 substance.....	0 3	0 4 1/2	0 6	0 7 1/2	0 9	0 10 1/2	1 0	1 1 1/2	1 3	1 4 1/2	1 6	1 7 1/2	1 9	2 0	2 1 1/2	2 3	2 4 1/2
No. 2 substance.....	—	—	—	0 11 1/2	1 1 1/2	1 3	1 4	1 5 1/2	1 7	1 8 1/2	2 0	2 1 1/2	2 3	2 4 1/2	2 6	2 7 1/2	2 9
No. 3 substance.....	—	—	—	—	1 6	1 7 1/2	1 9	2 0 1/2	2 2	2 3 1/2	2 5	2 6 1/2	2 8	2 9 1/2	3 1	3 2 1/2	3 4

These Beltings (unlike the ordinary manufacturers) are woven into one solid substance from the best flax yarn, and saturated with a compound to consolidate them, which is not liable to decomposition. They possess extraordinary strength, as the following certificate will verify, which renders them particularly adapted for paper and saw mills, threshing machines, grain elevators, foundries, machine shops, &c.

CERTIFICATE, FROM THE PORT OF LONDON CHAIN CABLE PROOF HOUSE.

THIS IS TO CERTIFY, that the tensile strength of Machinery Belting, manufactured by GEO. SPILL & CO., of HACKNEY WICK, LONDON, as proved by my chain cable testing machine, at Rotherhithe, to be as follows, viz.:

No. 1 substance.....	5 in. wide, broke at the strain of	6,373 lbs., or, for every inch of width, 1,274 lbs.
No. 2.....	" " " " " "	7,448 lbs., or, for every inch of width, 1,489 lbs.
No. 3.....	" " " " " "	16,663 lbs., or, for every inch of width, 3,332 1/2 lbs.
A stout leather band.....	4 in. wide, " " " " " "	2,100 lbs., or, for every inch of width, 525 lbs.

July 9, 1862. Manufacturers of India rubber. Double texture and oiled waterproof cart, rick, and wagon sheets, made up at price per square yard. Farmers' gaiters, buskins, and farm labourers' waterproof garments.

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**H E N R Y H U G H E S , F A L C O N W O R K S , L O U G H B O R O U G H .**

This LOCOMOTIVE ENGINE has been DESIGNED expressly for CONTRACTORS and MINERAL RAILWAYS. It is VERY STRONG in EVERY PART, and being mounted on small wheels close together, will MOUNT STEEP GRADIENTS and TURN SHARP CURVES.

The BOILERS are of the BEST PLATES, with fire-boxes of Low Moor, are clothed with half felt, lagged and covered with sheet iron, and PROVED to a PRESSURE OF TWO HUNDRED POUNDS PER SQUARE INCH.

The TYRES are of the BEST YORKSHIRE IRON, and of GREAT THICKNESS. The tank contains 250 gallons.

The FITTINGS consist of BUFFERS, POWERFUL BRAKE, GIFFARD'S INJECTOR, ROSCOE'S OILING APPARATUS, PRESSURE GAUGE, WATER GAUGE, and BLOWER to GET UP STEAM.

The engines are all tried before leaving the works, and an experienced man sent with them free of cost.

Full specification on application.

10 in. cylinders, 15 in. stroke, price £250.

Prize Medal, International Exhibition, 1862.

**RUSTON, PROCTOR, AND CO.'S CELEBRATED**

PRIZE PORTABLE ENGINES are SPECIALLY ADAPTED FOR WINDING, PUMPING, SAWING, &c. These engines have, in public competition, won the highest honours. For ECONOMY in WORKING, LARGE ALLOWANCE OF POWER IN CYLINDER AREA and PROPORTIONATE SIZE OF BOILER, STRENGTH OF CONSTRUCTION, HIGH FINISH, and GENERAL EFFICIENCY, they are unrivalled, having recently been AWARDED THIRTEEN GOLD, SILVER, and BRONZE PRIZE MEDALS, and numerous other prizes.

Messrs. A. Knowles and Sons write:—

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GENTLEMEN,—We beg to inform you that we have now in use the portable engine of 8 horse power you supplied us with, and have great pleasure in informing you that it works well, and we are much pleased with the workmanship and finish of it.

We are, yours respectfully, ANDREW KNOWLES AND SONS.

Illustrated, descriptive, and priced catalogues may be had on application to the Sheaf Ironworks, Lincoln.

International Exhibition, 1862—Prize Medal.

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(the original patentees and first makers of wrought-iron tubes), of the CROWN PATENT TUBE WORKS, WEDNESBURY, STAFFORDSHIRE, have been AWARDED A PRIZE MEDAL for the "good work" displayed in their wrought-iron tubes and fittings.

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MANUFACTURERS OF PATENT TUBULAR TYRES.

The PATENT TUBULAR TYRE possesses GREAT ADVANTAGES over the ORDINARY TYRES, both for its DURABILITY and EASY WORKING. A current of cold water going direct to the nozzle prevents their destruction, however much they may be exposed to the fire.

They are repaired at half the first cost, making them equal in size to new ones, all parties returning their carriage paid.

No. 1 tyre, 16 in. long ..... 28s. each.

No. 2 " 18 " ..... 32s. "

No. 3 " 20 " ..... 36s. "

No. 4 " 22 " ..... 40s. "

No. 5 " 24 " ..... 44s. "

Delivered at Chesterfield station. Terms, nett cash quarterly.

**PUBLIC TEST OF WIRE-ROPE.**

THE SUPERIOR QUALITY OF GARNOCK, BIBBY, AND CO.'S WIRE-ROPE WAS FULLY PROVED BY A RIVAL MANUFACTURER at the LIVERPOOL PUBLIC TESTING MACHINE, on the 29th of October, 1860, on which occasion GARNOCK, BIBBY, AND CO.'S ropes were found to be the STRONGEST of all the TWELVE SAMPLES from different makers then tested, as reported in the papers of the day. For example:—

(Certified by Mr. William Macdonald, superintendent.)

Garnock, Bibby, and Co. Corresponding sizes from other manufacturers.

Sizes. Tons c. Tons c. Tons c. Tons c.

3 1/4 in. .... 18 3/4 ..... 16 3/4 ..... 11 1/2

2 1/2 in. .... 8 1/2 ..... 7 1/2 ..... 5 0

\* Samples taken promiscuously from stock by a rival manufacturer's agent.

GARNOCK, BIBBY, AND CO.,

SWAN HEMP AND WIRE ROPE MANUFACTURERS, LIVERPOOL.

FLAT and ROUND STEEL and IRON WIRE ROPES for MINES, &c., of SUPERIOR QUALITY.

**BARCLAY'S PATENT STEAM AND WATER**

PRESSURE AND VACUUM GAUGES.

These GAUGES are MADE to INDICATE ANY PRESSURE FROM ONE TO TWENTY THOUSAND POUNDS UPON THE SQUARE INCH.

EACH GAUGE IS GUARANTEED FOR FIVE YEARS.

PATENTEE AND MAKER,

ANDREW BARCLAY,

ENGINEER,

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CAST STEEL FOR PUNCHES, TAPS, AND DIES,

TURNING TOOLS, CHISELS, &c.

CAST STEEL PISTON RODS, CRANK PINS, CONNECTING RODS, STRAIGHT AND CRANK AXLES, SHAFTS, and

FORGINGS OF EVERY DESCRIPTION.

DOUBLE SHEAR STEEL, T. TURTON.

BLISTER STEEL, EDGE TOOLS MARKED

SPRING STEEL, WM. GREAVES & SON.

GERMAN STEEL, Locomotive Engines, Railway Carriages and Wagon Springs and Buffers.

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**DR. SMITH** has just published a free edition of his valuable work, the PRIVATE MEDICAL FRIEND (116 pages), on the Safe Cure of Nervous Debility, Loss of Memory, Dimness of Sight, Lassitude, &c., resulting from the errors of youth. Sent post free to any address, on receipt of a directed envelope, enclosing two postage stamps.—Address, Dr. SMITH, 5, Burton-crescent, Tavistock-square, London W.C.

**CHARLES DAVEY AND CO.,**

SAFETY FUSE MANUFACTURERS,

ST. HELEN'S JUNCTION, LANCASHIRE.



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## DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Dividends Per Share.	Last Paid.
1000	Alderley Edge (Cheshire) [L.]	10 0 0	—	—	7 18 6	0 10 0—May, 1862
4000	Bedford United (copper), Tavistock	3 0 0	—	—	13 0 0	0 3 6—Dec. 1862
240	Boscon (tin), St. Just	20 10 0	—	—	36 10 0	0 0 0—Mar. 1862
200	Botalack (tin, copper), St. Just	91 8 0	—	—	455 18 0	0 0 0—Nov. 1862
200	Brondfod (lead), Cardigan [L.]	2 7 8	—	—	0 0 0	0 2 0—April, 1863
910	Burnell (silver-lead), Helston	15 0 0	—	—	3 5 0	1 0 0—Feb. 1863
1000	Carn Brea (copper), Helston	15 0 0	—	—	273 10 0	0 0 0—Feb. 1862
356	Copper Hill (copper), Redruth	48 0 0	—	—	9 10 0	0 10 0—Sept. 1862
19000	Copper Mines of England	25 0 0	—	—	7 1/2 per cent.	—Half-yrly.
300000	Ditto (stock)	100 0 0	—	—	—	—Half-yrly.
1085	Craddock Moor (copper), St. Cleer	8 0 0	—	—	7 12 0	0 4 0—July, 1862
812	Creechbrowns and Penkell, St. Cleer	—	—	—	0 10 0	0 10 0—Jan. 1862
867	Cwm Eryn (lead), Cardiganshire [L.]	7 10 0	—	—	8 8 0	0 10 0—April, 1863
128	Cwmystwith (lead), Cardiganshire	60 0 0	—	—	251 10 0	0 0 0—Mar. 1863
200	Darwent Mines (sil.-lead), Durham	360 0 0	—	—	147 0 0	0 5 0—June, 1862
250	Devon Trucony (copper), Tavistock	1 0 0	—	—	845 0 0	0 0 0—Mar. 1863
356	Dolcoath (copper), Camborne	128 10 0	—	—	709 10 0	0 0 0—April, 1863
13900	Drake Walls (tin, copper), Calstock	2 1 0	—	—	0 16 0	0 1 6—Feb. 1863
8000	Drynwm (lead), Wales	12 6 0	—	—	0 17 6	0 2 6—Jan. 1863
812	East Baaset (cop.), Redruth [S.E.]	86 0 0	—	—	107 0 0	0 1 0—Mar. 1863
8144	East Caradon (copper), St. Cleer [S.E.]	3 14 6	—	—	6 15 0	0 17 6—April, 1863
300	East Darron (lead), Cardiganshire	82 0 0	—	—	85 10 0	0 1 0—Mar. 1863
128	East Pool (tin, copper), Pool, Helston	24 8 0	—	—	230 0 0	0 0 0—April, 1863
2800	Fuxdale (lead) Isle of Man [L.]	25 0 0	—	—	—	—July, 1862
2000	Frank Mills (lead), Devon	3 18 6	—	—	0 16 0	0 2 0—Mar. 1863
1788	Great Wheel Fortune (tin), Breage	18 6 0	—	—	3 16 0	0 16 0—Feb. 1863
4008	Great Wh. Vor (tin, cop.), Helston [S.E.]	0 0 0	—	—	2 7 6	0 0 0—Mar. 1863
10240	Gunnis Lake (Clitters Adit)	2 0 0	—	—	—	—
1024	Heath (lead), near Liskeard [S.E.]	8 10 0	—	—	9 10 0	0 15 0—Oct. 1862
1000	Hibernian Mine Company	92 6 0	—	—	0 15 0	0 15 0—Feb. 1863
400	Liaburne (lead), Cardiganshire, Wales	18 10 0	—	—	403 10 0	0 4 0—Mar. 1863
1900	Marke Valley (copper), Cardigan	4 10 6	—	—	2 8 6	0 0 0—April, 1863
1900	Miners Mining Co. [L.] (id.), Wrexham	26 0 0	—	—	107 18 0	0 0 0—Feb. 1863
440	Mout Pleasant (lead), Mold	4 0 0	—	—	18 18 0	0 7 6—Aug. 1862
40000	Myndy (iron ore) [L.] [S.E.]	3 10 0	—	—	0 2 0	0 2 0—Mar. 1863
200	Nanty Mines (lead), Montgomery	20 0 0	—	—	1 0 0	0 1 0—Mar. 1863
5256	North Tolucon (cop.), Redruth, Cornwall	8 0 0	—	—	0 6 0	0 0 0—April, 1863
4000	Orehead (lead), Flintshire	0 0 0	—	—	0 16 0	0 0 0—Dec. 1862
6400	Par Consols (cop.), St. Blaize [S.E.]	1 2 6	—	—	36 19 0	0 2 6—Mar. 1863
200	Parys Mines (copper), Anglesey [L.]	60 0 0	—	—	57 10 0	0 10 0—Jan. 1863
400	Phoenix (copper and tin)	—	—	—	—	—
1773	Pulberron (tin), St. Agnes	—	—	—	7 9 6	0 10 0—April, 1863
1123	Providence (tin), Uny Lelant [S.E.]	10 6 7	—	—	87 5 0	0 1 0—Feb. 1863
6000	Rosewall Hill and Ransell United	2 16 0	—	—	0 8 6	0 2 6—Sept. 1862
16	Rhosomor (lead)	50 0 0	—	—	1250 0 0	0 100 0—Quarterly
112	South Cardon (cop.), St. Cleer [S.E.]	1 5 0	—	—	400 0 0	0 4 0—Mar. 1863
812	South Tolucon (cop.), Redruth, Cornwall	8 0 0	—	—	73 10 0	0 1 0—May, 1862
8000	South Tolucon (cop.), Redruth, Cornwall	8 0 0	—	—	366 0 0	0 1 0—Mar. 1863
496	S. Wh. Frances (cop.), Helston [S.E.]	18 18 0	—	—	0 6 0	0 6 0—June, 1862
1024	South Woodley	0 5 6	—	—	0 15 0	0 10 0—June, 1862
380	Spaumo Moor (tin, copper), St. Just	31 17 0	—	—	486 0 0	0 10 0—Nov. 1862
840	St. Ives Consols (tin), St. Ives	8 0 0	—	—	12 8 6	0 0 0—April, 1863
6000	Tincroft (cop., tin), Pool, Helston [S.E.]	9 0 0	—	—	11 0 0	0 2 0—Mar. 1863
1000	Trumpet Consols (tin), near Helston	11 10 0	—	—	4 12 6	0 1 0—Oct. 1862
2000	Vigna and Clogas (copper) [L.]	2 15 0	—	—	23 11 3	0 10 0—Jan. 1863
4000	West Baaset (copper), Helston [S.E.]	1 10 0	—	—	46 0 0	0 0 0—Mar. 1863
1024	West Caradon (cop.), Liskeard [S.E.]	0 17 0	—	—	47 7 6	0 10 0—Mar. 1863
256	West Damsel (copper), Gwennap	38 10 0	—	—	2 19 6	0 2 6—Mar. 1862
4000	West Fowey Consols (tin and copper)	7 10 0	—	—	278 0 0	0 5 0—April, 1863
1024	West Penrithral	4 0 0	—	—	292 10 0	0 1 0—Feb. 1863
400	W. Wh. Soton (cop.), Camborne [S.E.]	47 10 0	—	—	2 0 0	0 1 0—April, 1863
512	Wheel Baaset (copper), Helston [S.E.]	6 2 6	—	—	28 6 0	0 7 6—Dec. 1862
1900	Wheel Baaset and Grylls (tin)	7 0 0	—	—	2 0 0	0 1 0—Mar. 1863
2900	Wh. Clifford Amalgamated (cop.), Gwennap	30 0 0	—	—	3 4 6	0 2 6—April, 1863
1024	Wheel Grylls (tin), Penrithral	2 4 0	—	—	75 5 0	0 1 0—Nov. 1862
4800	Wh. Ludcott and Wrey (lead), St. Ives	2 10 8	—	—	284 5 0	0 4 0—Jan. 1863
896	Wh. Mary Ann (id.), Menheniot [S.E.]	8 0 0	—	—	318 3 0	0 7 10—Feb. 1863
1024	Wh. Mary Ann (id.), Menheniot [S.E.]	8 0 0	—	—	—	—
80	Wheel Owles (tin), St. Just, Cornwall	70 0 0	—	—	150 15 0	0 3 0—April, 1863
1024	Wheel Prosper (tin), Lanivet	0 8 6	—	—	46 12 6	0 10 0—Mar. 1863
396	Wheel Soton (sil.-cop.), Camborne	58 10 0	—	—	—	—
1040	Wh. Trevelyan (sil.-id.), Liskeard [S.E.]	5 17 0	—	—	—	—

\* Dividends paid every two months. † Dividends paid every three months.

## MINES WITH DIVIDENDS IN ABEYANCE.

700	Aberdovey (silver-lead), Merioneth	1 10 0	—	—	0 10 0	0 10 0—Mar. 1859
200	Cern Cwm Brynno (lead), Cardiganshire	33 0 0	—	—	0 0 0	0 0 0—April, 1861
2500	Condurrow (cop., tin), Camborne	35 0 0	—	—	85 0 0	0 2 0—June, 1862
3450	Cook's Kitchen (copper), Helston	17 0 0	—	—	1 7 0	0 7 0—May, 1862
4076	Devon and Cornwall (copper)	18 0 0	—	—	0 10 0	0 2 6—Feb. 1859
472	Ding Dong (tin), Guisay	40 18 0	—	—	16 7 6	1 10 0—Mar. 1857
400	Fowey Consols (copper), Twardreath	4 0 0	—	—	41 9 8	0 2 6—Jan. 1862
6000	Great South Tolucon [S.E.], Redruth	0 14 6	—	—	7 18 6	0 0 0—Dec. 1861
5000	Kelly Bray (lead, copper), Callington	4 15 6	—	—	0 6 0	0 2 0—Feb. 1860
160	Levant (copper, tin), St. Just	2 10 0	—	—	1091 0 0	0 0 0—May, 1860
30000	Mining Co. of Ireland (cop., lead, coal)	7 0 0	—	—	14 7 11	0 7 0—Dec. 1861
4000	New Bireth Tor and Vitrifer Cons. (tin)	1 8 6	—	—	0 3 6	0 1 0—Sept. 1861
4000	Newtownards Mining Co., Co. Down	50 0 0	—	—	56 0 0	0 1 0—Sept. 1858
4008	Rosewall Consols (copper)	3 12 6	—	—	0 2 0	0 2 0—Oct. 1862
12000	Sherifford Cons. (cop.), Whitcomb [S.E.]	0 17 0	—	—	0 10 0	0 2 6—July, 1857
6000	Talvaddan (copper), Marazion	1 0 0	—	—	0 13 6	0 0 0—Mar. 1860
9600	Tamar Con. (sil.-id.), Berrall [S.E.]	4 10 0	—	—	0 6 0	0 2 6—Jan. 1862
272	Trelon Consols (tin), St. Ives	12 10 0	—	—	7 0 0	0 10 0—Sept. 1860
1024	Wendron Consols (tin), Wendron	12 13 0	—	—	0 15 0	0 1 0—Jan. 1861
80	West Burton Hill (lead), Yorkshires	50 0 0	—	—	14 10 0	0 3 0—June, 1861
256	Wheel Buller (cop.), Redruth [S.E.]	8 0 0	—	—	229 0 0	0 2 0—Mar. 1861
128	Wheel Friendship (copper), Devon	60 0 0	—	—	2400 10 0	0 0 0—Feb. 1861
1024	Wheel Harris (tin), St. Just	9 18 8	—	—	0 5 0	0 5 0—May, 1862
812	Wheel Jane (silver-lead), K. M.	3 10 0	—	—	13 10 0	0 1 0—Mar. 1862
1024	Wheel Kitty (tin), Uny Lelant [S.E.]	3 0 0	—	—	8 10 0	0 10 0—April, 1862
4296	Wheel Kitty (tin), St. Agnes	5 4 6	—	—	18 6 0	0 2 0—July, 1860
5000	Wicklow (copper) [L.]	5 0 0	—	—	49 17 6	0 2 0—Oct. 1861

## FOREIGN MINES.

2444	Burra Burra (cop.), South Australia	5 0 0	—	—	305 0 0	5 0 0—Feb. 1863
8000	Central American (silver) [L.]	5 0 0	—	—	3 2 9	0 14 6—Oct. 1862
19000	Cobre Copper Co. (cop.), Cuba [S.E.]	40 0 0	—	—	98 12 0	1 0 0—Jan. 1863
10000	Copago Mining Company [L.] [S.E.]	16 0 0	—	—	6 18 0	0 10 0—Nov. 1862
5000	East Indian Cons. (tin)	10 10 0	—	—	—	—
70000	English and Australian [S.E.]	8 0 0	—	—	7 1/2 per cent.	—Yearly
25000	Fortuna (lead), Spain [L.] [S.E.]	2 0 0	—	—	1 7 6	0 2 6—Feb. 1862
2000	Gen. Mining Assoc., Nova Scotia [S.E.]	30 0 0	—	—	19 5 0	1 0 0—June, 1863
80000	Kapunda Mining Co., Australia [S.E.]	1 0 0	—	—	0 10 0	0 10 0—Mar. 1863
15000	Linares (id.), Pozo Ancho, Spain [S.E.]	3 0 0	—	—	9 12 0	0 5 0—Mar. 1863
10000	Lusitania (of Portugal) [S.E.]	3 0 0	—	—	0 19 0	0 1 0—Feb. 1862
10815	Marquis and New Granada [S.E.]	1 0 0	—	—	0 9 6	0 1 6—July, 1859
11000	Port Philip (gold), Clunes [S.E.]	1 0 0	—	—	0 8 6	0 2 6—Jan. 1863
11000	St. John del Rey (id.), Brazil [S.E.]	15 0 0	—	—	34 15 0	4 0 0—Dec. 1862
48174	Union Mexican (sil.), Mexico [S.E.]	28 0 0	—	—	2 1 6	0 5 0—Oct. 1862
20000	West Canada Mining Company [L.]	1 0 0	—	—	0 2 0	0 2 0—Nov. 1862

## FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

10000	Altman and Quannan (cop.) [L.] [S.E.]	4 10 0	—	—	4 4 5	0 15 0—Nov. 1853
10000	Barrier Lead, Min. Ac. N. Ze. [L.]	4 10 0	—	—	—	—
10000	Pontgibaud (sil.-lead), France [S.E.]	20 0 0	—	—	1 0 0	1 0 0—June, 1855

## NON-DIVIDEND FOREIGN MINES.

DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr	Bus. done.	Last Call.
30000	Australian (copper), South Australia [S.E.]	7 7 6	1%	..	..Oct. 1888
20000	Bear (tin) [L.]	0 10 0	..	..	..Oct. 1882
75000	Bon Accord, South Australia (copper) [L.] [S.E.]	1 0 0	..	3% %	..Jan. 1889
15000	Cape Copper Mining Company [L.] [S.E.]	2 10 0	..	3% %	..Jan. 1863
25000	Capula (silver), Mexico [L.] [S.] [S.E.]	0 10 0	3%	..	..Jan. 1863
17000	Central Italian (copper) [7000 St. paid]	0 6 0	3%	5% %	..Jan. 1859
80000	Clarendon Consols (copper), Jamaica [S.E.]	1 2 6	..	..	..Jan. 1863
10000	Copago Smelting [L.]	10 0 0	..	..	..Fully paid.
100000	Don Pedro North Del Rey (gold), Brazil [L.] [S.E.]	0 10 0	1%	1	..Aug. 1863
75000	Dun Mountain (copper), New Zealand [L.] [S.E.]	1 0 0	3%	..	..Fully paid.
25000	East del Rey, Brazil [L.]	1 0 0	..	..	..Sept. 1861
30000	East Kongberg Native Silver Mining Co. of Norway [L.] [S.]	1 7 6	..	..	..Mar. 1863
20000	Elbe Colliery Company [L.]	1 0 0	..	..	..Fully paid.
80000	Ellerslie and Bardowie, Jamaica	0 18 0	..	..	..July, 1859
80000	English and Canadian Mining Company [L.]	8 0 0	..	..	..Fully paid.
40000	Fortuna (copper), West Australia [L.]	2 0 0	..	..	..Fully paid.
25000	Great Northern (copper), South Australia [L.] [S.E.]	1 10 0	..	..	..Fully paid.
34000	Hindostan (copper), Bengal [L.] [S.]	3 0 0	..	..	..June, 1863
40000	Hope Silver-lead and Copper Mining Co. [L.] [S.E.]	0 10 0	..	..	..Feb. 1863
50000	Imperial Thessalian (lead, &c.), Thessaly [L.] [S.]	0 10 0	..	..	..Fully paid.
10000	Karbita Colliery Company [L.]	1 0 0	..	..	..June, 1860
10000	Lagunaso (sulphur, copper), Portugal [L.]	1 0 0	..	..	..Fully paid.
100000	Montes Aneiros (gold), Brazil [L.] [S.E.]	2 0 0	3%	3% 3%	..Fully paid.
2000	New Burra Burra (Australia)	5 0 0	..	..	..Aug. 1863
80000	New Granada (gold), South America [S.E.]	1 0 0	..	..	..Fully paid.
19000	New Grand Duchy of Baden (silver-lead), near Freiburg	1 0 0	..	..	..Fully paid.
60000	North Rhine Copper of South Australia [L.] [S.E.]	0 17 6	..	..	..Nov. 1858
15000	Nova Scotia (lead and gold) [L.] [S.]	1 0 0	..	..	..Nov. 1862
18000	Pachuca Silver Mining Company, Mexico [L.] [S.]	0 15 0	..	..	..Apr. 1862
17000	Quebrada (copper), Venezuela [L.] [S.]	2 10 0	..	..	..Dec. 1862
60000	Santa Barbara (gold), Brazil [L.] [S.]	0 10 0	..	..	..Mar. 1862
150000	Scottish Australian Mining Company [L.] [S.]	0 12 6	..	..	..Apr. 1862
10000	Seigne Europe Mining Company, Spain [L.] [S.]	3 0 0	..	..	..May, 1860
50000	St. John's United (copper), Newfoundland [L.]	1 0 0	..	..	..Fully paid.
15000	Teplitz Colliery Co. [L.] [S.]	2 0 0	..	..	..Fully paid.
10000	Vancouver (coal) [L.] [S.]	5 0 0	..	..	..Fully paid.
45000	Victor Emanuel, Italy [L.]	5 0 0	..	..	..Fully paid.
10000	Western African Malachite (copper) [L.]	110 0 0	..	..	..Oct. 1859
12000	Wheel Ellen, South Australia [L.]	5 0 0	..	..	..Fully paid.
25425	Wheel Jamaica (copper)	1 0 0	..	..	..Fully paid.
80000	Worthing (copper), South Australia [L.] [S.E.]	1 0 0	..	..	..Fully paid.
45000	Yafanacutana (copper), South Australia [L.] [S.E.]	3 0 0	3%	3% 3%	..Fully paid.